

# AGRICULTURAL OUTLOOK

Economic Research Service  
United States Department of Agriculture

October 1993

**NEW TAX POLICIES:**  
*Farm Economy Impacts*

**FARM  
INCOME  
UPDATE**

# AGRICULTURAL OUTLOOK



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Economics Editor—Cathy Greene (202) 219-0313

Associate Editor—Nathan Childs (202) 219-0840

Managing Editor—Mary Reardon (202) 219-0494

**Overview Coordinators**—Richard Stillman, Agnes Perez, Livestock;  
Grace Chomo, Carol Whitton, Field Crops;  
Glenn Zepp, Specialty Crops

Statistical Coordinator—Ann Duncan (202) 219-0313

Design & Layout Coordinator—Victor Phillips, Jr.

Editorial Staff—Trina J. Myers

Tabular Composition—Jayce Bailey, Cilla Peterson

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## News of Tax Provisions, Farm Income, World Oilseed Outlook, China's Rural Development, & Ensuring Pork Safety

### Farm Finance

**Net cash income up:** Net cash income for U.S. farms is forecast up 8-12 percent for calendar 1993, despite lowered crop production forecasts due to the flooding in the Midwest and drought in the East. Both livestock and crop receipts are expected higher, and disaster payments could raise government payments to their highest since 1988. Farm expenses are forecast up only 1-2 percent for 1993.

But, net farm income will be down this year, reflecting crop losses. Also, farm income will vary widely among regions and farmers. Midwest net cash income is actually expected to rise in calendar 1993, because of sales from storage of 1992 crops and government disaster payments. However, some farmers are suffering severe income and capital losses.

### Agricultural Economy

**Tax changes benefit farmers:** Most farmers and rural communities are expected to come out ahead on the tax policy changes contained in the President's budget package, which was signed into law on August 10, 1993. The more significant tax increases—including higher individual and corporate income tax rates—are aimed at high-income taxpayers, and are less likely to affect farmers and rural households than metro households.

On the other hand, the package's tax incentives, designed to stimulate the economy and assist low-income individuals and families, will likely have a positive effect in farming and rural communities. Investment and health insurance deductions are increased, earned income tax credits are expanded, and Federal enterprise and empowerment zones are created in rural areas.

### Commodity Spotlight

**Industry using more ag products:** Industrial products made from agricultural materials are gaining a foothold in con-



sumer markets. Government environmental regulations and growing consumer preference for "green" products are expanding industrial demand for agricultural materials. Products showing signs of success include ethanol, starch-based adhesives and biodegradable polymers, soy-oil inks, biodiesel fuel, erosion-control products, and kenaf-based packing materials and animal litter. Recent scientific advances are reducing the costs of processing farm products for use as industrial raw materials. And advances in process engineering are making farm-based products more competitive with synthetic materials.

### World Agriculture & Trade

**Outlook mixed for oilseeds:** World oilseed trade is projected to decline in 1993/94 as the EC begins to substitute less expensive grains for soybeans and other protein meals. However, world trade in oilseed products—protein meals and vegetable oils—will be enhanced by large supplies in key exporting countries and increased demand by newly industrialized and developing countries.

World oilseed production is projected to decrease for the first time in 5 years, to

226 million metric tons, due largely to a drop in soybean output. Oilseed production in the U.S.—the largest soybean producer—is expected to drop 10 percent from the 1992/93 near-record, due primarily to flood-induced losses and lower yields in some Midwest states. Foreign oilseed production is projected to climb 4 percent, partly offsetting the U.S. drop.

### China's rural development uneven:

China's rural development has progressed rapidly since the late 1970's when reforms and more open trade policy were introduced. The value of goods produced in rural areas grew markedly and per capita rural incomes rose. However, the coastal and inland provinces have experienced uneven development. The coastal provinces—closer to foreign and overseas Chinese investors and with a better infrastructure—generally have achieved faster economic growth. Vigorous investment in infrastructure in China's central and western areas would help prevent inland rural development from falling further behind.

### Food Safety

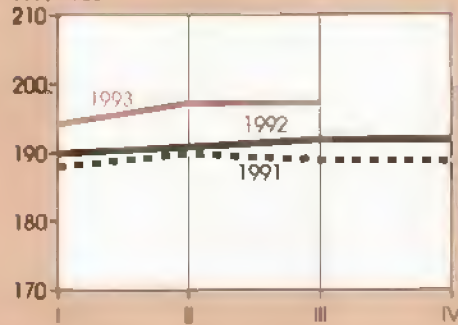
**Foodborne disease costs:** The Economic Research Service estimates that the annual foodborne disease costs associated with a single pork parasite, *Toxoplasma gondii*, could exceed \$2 billion a year. Consumption of pork containing *T. gondii* can cause infections in children and adults, but most are mild enough to escape notice. The primary illness associated with *T. gondii* occurs when a pregnant woman passes the infection on to her fetus, causing congenital toxoplasmosis and mild to severe mental retardation, hearing impairment, or blindness. High costs are associated with congenital toxoplasmosis due to the severity of the disease and because babies may lose their entire potential lifetime earnings and could require institutional care. New farm management techniques, product labels, and faster tests for pathogens may enhance pork safety.

## Agricultural Economy

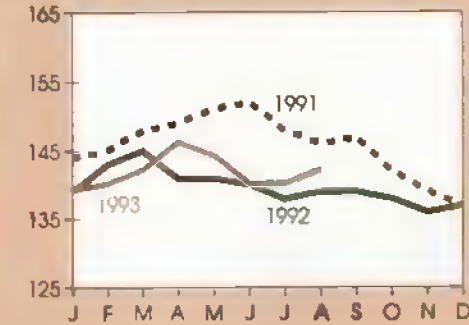
## Prime Indicators

Index of prices paid by farmers

1977=100

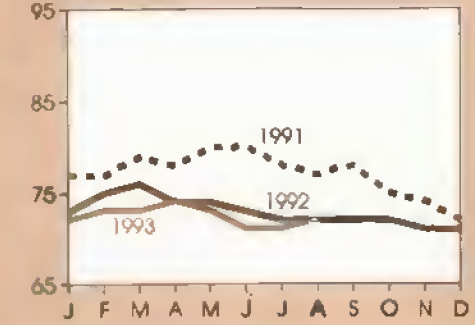
Index of prices received by farmers<sup>1</sup>

1977=100

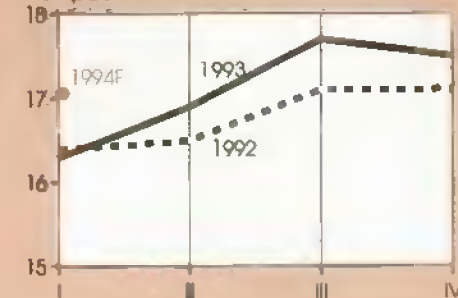


Ratio of prices received/prices paid

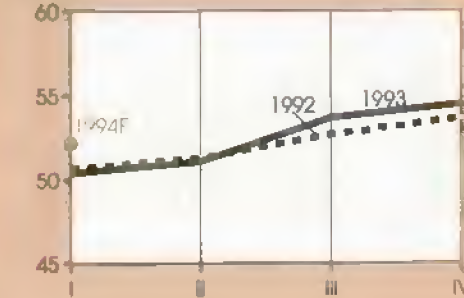
Percent

Total red meat & poultry production<sup>2</sup>

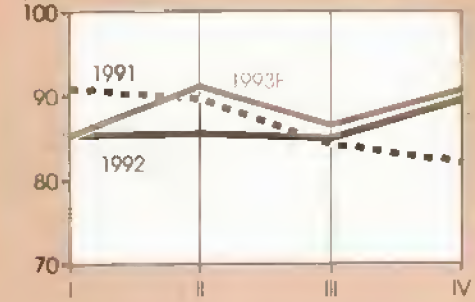
Billion pounds

Red meat & poultry consumption, per capita<sup>2,3</sup>

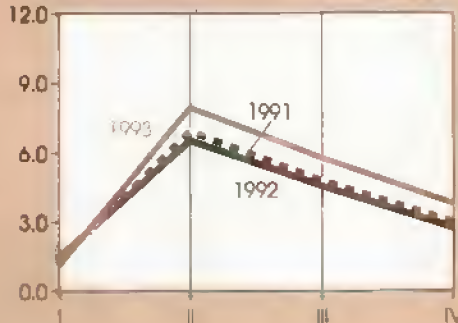
Pounds

Cash receipts from livestock & products<sup>4</sup>

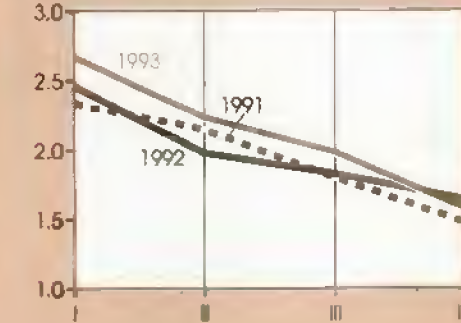
\$ billion

Corn beginning stocks<sup>5</sup>

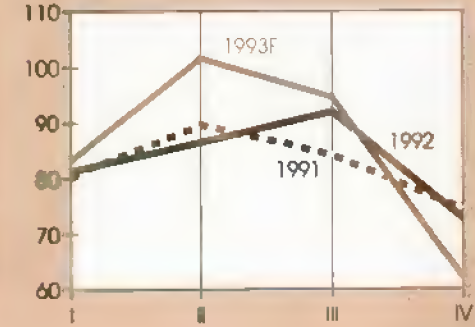
Billion bushels

Corn disappearance<sup>5</sup>

Billion bushels

Cash receipts from crops<sup>4</sup>

\$ billion



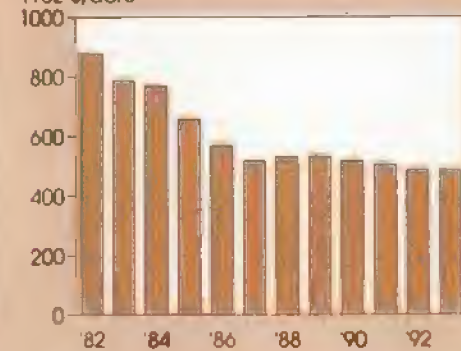
Farm loan interest rates

Percent



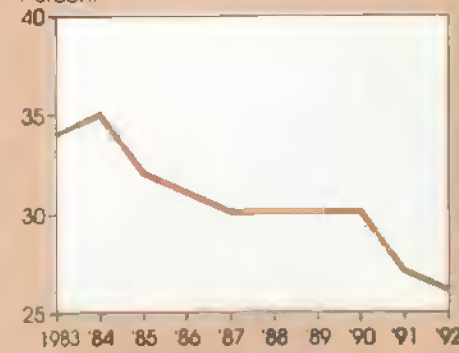
Average real value of farm real estate

1982 \$/acre



Farm value/retail food costs

Percent



<sup>1</sup> For all farm products. <sup>2</sup> Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. <sup>3</sup> Retail weight. <sup>4</sup> Seasonally adjusted annual rate. <sup>5</sup> I=Sept.-Nov.; II=Dec.-Feb.; III=Mar.-May; IV=June-Aug. Marketing years ending with year indicated.





## Tax Provisions To Benefit Farm & Rural Economy

**M**ost farmers and rural communities are expected to come out ahead on the tax policy changes contained in the President's budget package. The more significant tax increases are aimed at high-income taxpayers, and are less likely to affect farmers and rural households than metro households. The package's tax incentives, on the other hand, designed to stimulate the economy and provide assistance to low-income individuals and families, will likely have a positive effect in farming and rural communities.

The budget package—the Omnibus Budget Reconciliation Act of 1993—signed into law on August 10, 1993, is estimated to reduce the Federal budget deficit by approximately \$500 billion from 1994 to 1998. One of the expected benefits of reducing the deficit is lower long-term interest rates, which will lower interest costs for farmers and other rural businesses and households.

### Tax Increases Affect Few Farmers

**Marginal income tax rates.** The budget act increases the marginal income tax rates from 31 to 36 percent for single individuals with taxable income over \$115,000, and married couples with income over \$140,000. The act also imposes a surtax of 10 percent on taxable income over \$250,000, creating a fourth tax bracket of 39.6 percent. The surtax does not apply to net capital income, thereby maintaining the current maximum tax rate on capital income at 28 percent. This should encourage investment in farmland and other assets eligible for capital gains treatment. The increase in marginal tax rates is retroactive to January 1, 1993.

The increase in marginal income tax rates will affect between 2 and 3 percent of farm sole proprietors, while the surtax will affect less than 1 percent. Although comparable estimates are not available for rural residents, these provisions are less likely to affect nonfarm rural households than metro households because there are fewer high-income households in nonmetro areas.

**Federal excise tax on gasoline.** The only tax increase that will affect most farmers and rural individuals is the increase of 4.3 cents per gallon in the Federal excise tax on gasoline, diesel, compressed natural gas, and noncommercial aviation fuel, effective October 1, 1993 (commercial aviation fuel is exempt for 2 years). However, since gasoline and diesel fuel used on farms are exempt from the Federal excise tax, the impact on farmers will be limited.

Like other sectors of the economy, farmers will face slightly higher production costs as transportation costs rise with the excise tax increase. Rural workers commuting to jobs in nearby towns and cities will also face higher transportation costs.

**Social Security taxes and benefits.** The act effectively reduces Social Security benefits for high-income recipients by increasing the portion of Social Security benefits subject to tax. Before passage of

the act, single individuals with modified adjusted gross income (MAGI) above \$25,000 (\$32,000 for joint returns) had been required to include 50 percent of their Social Security benefits in adjusted gross income (AGI). In general, MAGI equals AGI plus tax-exempt interest and one-half of Social Security benefits. The act maintains the current definition of MAGI and increases the amount of Social Security benefits included in AGI for tax purposes from 50 percent to 85 percent for individuals with MAGI above \$34,000, or couples with MAGI over \$44,000. The change is effective January 1, 1994.

Under current law, approximately 155,000 farm sole proprietors (7 percent of all farm sole proprietors) and 125,000 farm landlords (21 percent) had to include a portion of their Social Security benefits in income for tax purposes. These individuals included nearly \$1.2 billion of their benefits in AGI in 1990.

The increase in the percentage of benefits included in AGI will affect approximately two-thirds of these farm sole proprietors and farm landlords, and will increase the amount of taxable benefits by \$650 million. The combined Federal income tax liabilities for farm sole proprietors and farm landlords together will increase by approximately \$180 million. Nonfarm Social Security recipients living in nonmetro areas are less likely than their metro counterparts to be affected by this change because they have significantly lower family incomes.

**Medicare hospital insurance contributions.** The Medicare hospital insurance (HI) portion of the Federal Insurance Contribution Act had been 2.9 percent (1.45 percent each for employer and employee) of wage and self-employment income up to \$135,000. The act removes the cap and subjects all wage and self-employment income to the HI tax, effective January 1, 1994.

Less than 1 percent of all farm sole proprietors have wage and self-employment income above the previous dollar limit. These individuals will be required to pay an additional contribution on self-employment income (2.9 percent) and wages (1.45 percent) beyond \$135,000.

## Agricultural Economy

### *Corporate taxes and business expenses.*

The top corporate tax rate (for taxable income over \$10 million) is increased from 34 to 35 percent. Many business deductions—including club dues, executive compensation, and meal and entertainment expenses—have been limited.

Very few farm corporations have taxable income over \$10 million. In addition, the limits on business deductions should have little or no impact on most farm corporations. The impact on other rural businesses is also likely to be limited.

**Federal estate and gift tax rate.** In 1992, the top Federal estate and gift tax rate was 55 percent for taxable estates in excess of \$3 million. Beginning in 1993, the top rate was reduced to 50 percent for estates over \$2.5 million. The act restores the 55-percent rate for estates over \$3 million and the 53-percent rate for estates between \$2.5 and \$3 million. Only about 200 farm estates each year are large enough to be affected by these rate increases.

### *Incentives To Stimulate Investment & Growth*

The President's original budget contained a variety of tax incentive proposals to boost investments, stimulate the economy, and promote economic growth. While the act does not contain all of the original proposals, it does provide incentives that will benefit farmers and other rural businesses and individuals.

**Impacts of the act's tax changes on farm sole proprietors are estimated based on the 1990 IRS Individual Public Use Tax File. At last count, sole proprietorships accounted for the bulk of all farms in the U.S. (87 percent), and about 56 percent of all product sales. Most remaining farms were organized as partnerships or family corporations, and accounted for almost 43 percent of all product sales.**

**Investment deductions.** Farmers and other businesses had been allowed to immediately deduct up to \$10,000 of investment in farm machinery and other eligible depreciable property each year. The act increases that amount to \$17,500 per year for businesses that invest less than \$210,000. This will reduce the cost of depreciable capital for many farmers and small businesses and encourage increases in capital investment. The increase in expensing is applicable to investments made after January 1, 1993.

Ten percent of all farmers make investments of over \$10,000 each year. Assuming a 28-percent combined effective Federal income tax and self-employment tax rate, the estimated present value of the tax savings for an individual who invests \$17,500 is \$427.

**Health insurance deductions.** Health insurance, an increasing concern for all Americans, has become an especially important issue for self-employed individuals, including farmers. The tax code has been more favorable to companies and their employees than to self-employed individuals. Many employees receive tax-free health insurance coverage from companies that can fully deduct the cost of such coverage as a business expense.

Since 1987, self-employed individuals without access to an employer-sponsored health plan have been allowed to deduct 25 percent of the cost of health insurance from taxable income. But the deduction was allowed to expire on June 30, 1992. The budget act extends the deduction through December 31, 1993, and expands eligibility.

Under the old law, self-employed individuals and their families were eligible for the deduction only if they were not covered by an employer-sponsored plan at any time during the year. Now, eligibility will be determined on a monthly rather than a yearly basis. Thus, a family covered by employer-sponsored insurance for part of the year will be eligible for the deduction during the portion of the year when no employer-sponsored coverage is available.

The 25-percent deduction has helped lower the after-tax cost of health insurance for farm sole proprietors and partners in farm partnerships. In 1990, farm sole proprietors deducted over \$265 million in health insurance costs for themselves and their families, resulting in Federal income tax savings of about \$50 million. Extending the deduction and expanding eligibility will partially match the tax benefits available to many salaried employees.

**Small-issue bond exemptions.** Several states with agricultural loan programs use tax-exempt bonds as their source of funding. Prior to June 30, 1992, interest on small-issue bonds used to provide low-interest loans to first-time farmers was exempt from Federal income taxes, allowing state and local governments to provide up to \$250,000 to a beginning farmer. The act permanently extends the exemption, providing a stable source of funding for state and local governments to encourage farm ownership by young farmers.

**Earned income tax credit (EITC).** An important component of the act is the simplification and expansion of the EITC, which will benefit low-income farm and rural households. The EITC is intended to assist low-income working individuals and families and to offset the increase in the Federal excise tax on transportation fuels.

The previous three-part EITC included a basic credit plus credits for young children and health insurance. The basic EITC rate was 18.5 percent of the first \$7,750 of income for a worker with one child (maximum credit of \$1,434), and 19.5 percent for a worker with two or more children (maximum of \$1,511). The young child and health insurance credits increased the basic EITC rate by 5 and 6 percentage points, adding \$338 and \$465 to the maximum credit amount. The credits were gradually phased out for incomes over \$12,000, and were not available to taxpayers with incomes over \$23,050.

By 1995, under the budget act, the basic EITC rate for families with one child will be increased to 34 percent of the first \$6,000 (plus an inflation adjustment) of



earned income, and the maximum credit is projected to be \$2,100. The credit is phased out for families with income between \$11,000 and \$23,760. For families with two or more qualifying children, the credit is increased by 1996 to 40 percent of the first \$8,425 of earned income (plus an inflation adjustment), for a projected maximum credit of \$3,620. The credit is phased out for those with income of between \$11,000 and \$27,000. The current young child and health insurance credits are repealed.

In addition, the earned income credit is extended to qualified low-income workers without children. For these workers, the EITC in 1994 is 7.65 percent of their first \$4,000 of earned income (for a maximum credit of \$306). The credit is phased out for taxpayers with income of between \$5,000 and \$9,000.

The expansion of the EITC will substantially increase both the amount of the credit and the number of farm and rural households eligible. The increase in the phaseout range for multichild families from \$23,050 to \$27,000 could benefit approximately 40,000 farm sole proprietors. Extending the EITC to low-income workers without children could benefit approximately 250,000 farm sole proprietors.

The increase in the earned income tax credit should provide farm sole proprietors with an additional \$200 million by 1996. This would increase the estimated amount of credit received by farm sole proprietors in 1993 by nearly 85 percent. Most of the increase will accrue to farm households with two children. The extension of the credit to low-income workers with no children accounts for only about 20 percent of the increase.

In general, a higher proportion of non-metro than metro area households will be likely to benefit from the expansion of the earned income tax credit since non-metro area populations contain a larger percentage of working poor.

**Enterprise and empowerment zones.** Building on the success of state enterprise zones, the act provides for the establishment of 95 Federal enterprise communities and 9 "empowerment" zones. As with the state programs, the Federal program designates certain areas with pervasive poverty, high unemployment, and general economic distress to receive business tax and other incentives to stimulate economic development.

Three of the Federal empowerment zones and 30 of the enterprise communities are designated for rural areas, and will be selected by the Secretary of Agriculture from among areas that satisfy certain eligibility criteria. These criteria include poverty rates, as well as population and geographic size limitations.

Federal tax incentives for the empowerment zones include a 20-percent employer-wage credit up to a maximum of \$3,000 per zone-resident employee, a substantial increase from \$10,000 to \$37,500 in the amount of investment in depreciable property that can be expensed each year, and expanded use of tax-exempt financing. Federal enterprise communities are eligible only for expanded use of tax-exempt financing.

Experience with state enterprise zone programs has demonstrated that they can be a modestly effective and reasonable-cost method of creating jobs in economically disadvantaged areas. However, rural areas are frequently at a disadvantage in competing for designation zones.

By allocating a portion of the zones and communities to rural areas, the act guarantees that rural as well as urban areas would benefit from the Federal empowerment zone and enterprise community program. While enterprise communities should experience a modest increase in economic activity, business development and job growth could be substantial in the designated rural empowerment zones.

On balance, the budget act will benefit farmers and rural households. Except for a few high-income taxpayers in the farm and rural community, the gains from the investment and health insurance deductions, EITC, enterprise zones, and other

tax incentives will outweigh the costs associated with the Federal excise tax for transportation fuels and other new taxes. [Michael Compson and Ron Durst (202) 219-0898] **AC**

## Field Crops Overview

*The corn harvest is behind schedule, but quality and maturation rate vary substantially between regions, due primarily to adverse weather in the Midwest slowing growth. Soybean production in the Southeast has suffered from dry weather. While wheat production is projected slightly higher than in 1992/93, the 1993/94 rice crop is forecast smaller than the year-earlier near-record output. Expanded harvested acreage could result in a near-record cotton crop.*

### Domestic Outlook—September Projections For 1993/94

#### Corn Harvest Behind Schedule

The 1993/94 corn crop, normally harvested in September and October, is behind schedule in the Midwest. However, some areas which experienced drought in the Southeast are slightly ahead of schedule. Both yield and area are forecast down from a year earlier.

- As of September 19, 27 percent of the corn crop was mature, close to the 26 percent a year earlier but down from the historical average of 56 percent for that date. Over 50 percent of the corn crop was rated good to excellent, down from 78 percent a year earlier.

## Agricultural Economy

- The corn yield, forecast to average 113.1 bushels per acre for 1993/94, is down 14 percent from the record of a year earlier, but still larger than the 1991/92 yield.
- Harvested acreage is forecast at 63.9 million acres and if realized will be the smallest since 1988.
- As a result of lower projected acreage and yield, production is forecast to be 7.23 billion bushels in 1993/94, the smallest corn crop since the drought-reduced crop of 1988.
- September's projections for 1993/94 exports and feed and residual use were reduced from August's estimate. Total use is forecast to be 8.05 billion bushels, down from 8.44 billion a year earlier, but still larger than in 1990 and 1991.
- Ending stocks are forecast to be 1.34 billion bushels, down from 2.15 billion a year earlier but still above 1991.

- The farm price forecast range was unchanged from August at \$2.15-\$2.55 per bushel. This range exceeds the \$2.07 annual average a year earlier but includes the average annual farm price for corn from 1989 to 1991.

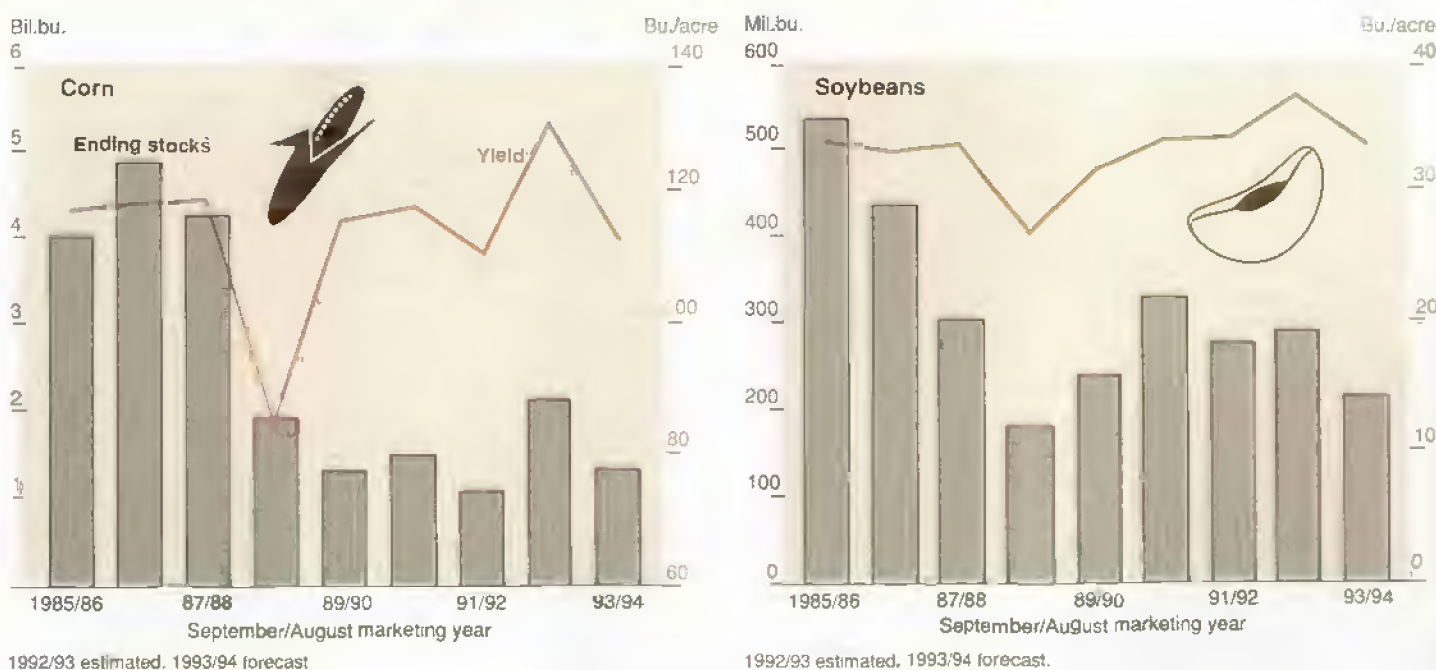
### Soybean Crop Expected Smaller

Reduced acreage in the Midwest and dry weather in the Southeast have adversely affected yields and contributed to 1993/94 projections for soybean production well below a year earlier. The yield forecast was raised slightly from August, while the harvested acreage projection was reduced.

- Harvested area for 1993/94 is forecast to be 56.2 million acres, down from 58.4 million a year earlier and the smallest since 1976.
- Average yield is forecast to be 34 bushels per harvested acre, down from 37.7 bushels a year earlier and slightly below yields in 1990 and 1991.

- Production, forecast at 1.91 billion bushels, is down 13 percent from 1992/93's near-record harvest and would be the smallest soybean crop since 1988/89's drought-reduced production.
- The forecast for ending stocks, 215 million bushels, is down 26 percent from a year earlier. Although this would be the smallest carryover since 1989/90, it would still be 33 million bushels above ending stocks in 1988/89.
- Average farm price is forecast at \$6-\$7 per bushel in 1993/94, unchanged from August's forecast. This would be the highest average farm price since 1988/89.
- About 97 percent of pods were set as of September 12, down just slightly from 99 percent a year earlier and right on the historical average for that date.
- However, only 45 percent of the soybean crop was rated in good to excellent condition on September

### Lower Yields Lead to Smaller Stocks for Corn and Soybeans





19, down from 73 percent a year earlier. Crops in Georgia, South Carolina, Minnesota, and Mississippi suffered the most damage from weather.

## Wheat Production Forecast Larger

Moist summer weather has contributed to concerns about reduced wheat quality, especially from scab and sprout damage. However, greater harvested acreage puts the 1993/94 crop forecast higher than a year earlier. Yields are projected down slightly from a year earlier. Production estimates were reduced slightly from the August projections due to lower forecast yields in September.

- Average wheat yield for 1993/94 is forecast to be 39 bushels per acre. Although down slightly from a year earlier, this would still be the fourth largest.
- Harvested acreage is forecast to be 63.9 million acres, up from 62.4 million a year earlier and the largest since 1990/91.
- Production, forecast at 2.49 billion bushels, would be up 34 million bushels from a year earlier and the largest wheat crop since 1990.
- Due mostly to a weaker export forecast, total use is forecast down by over 3 percent, to 2.39 billion bushels, from a year earlier.
- The projection for 1993/94 ending stocks is 708 million bushels, up from 529 million a year earlier and the largest since 1990.
- Average farm prices are forecast to be \$2.70-\$3 a bushel, down from \$3.24 a year earlier. Larger supplies and weaker exports than a year earlier have contributed to higher ending stocks and lower farm prices.

## U.S. Field Crops—Market Outlook at a Glance

	Area		Yield	Output	Total supply	Domestic use	Exports	Ending stocks	Farm price
	Planted	Harvested							
	— Mil. acres —	— Bu/acre —							
Wheat									
1992/93	72.3	62.4	39.4	2,459	3,001	1,118	1,354	529	3.24
1993/94	72.1	63.9	39.0	2,493	3,097	1,264	1,125	708	2.70-3.00
Corn									
1992/93	79.3	72.1	131.4	9,479	10,585	6,760	1,875	2,150	2.07
1993/94	73.7	63.9	113.1	7,229	9,390	6,650	1,400	1,340	2.15-2.55
Sorghum									
1992/93	13.3	12.2	72.8	884	937	483 <sub>g</sub>	275	180	1.89
1993/94	10.7	9.7	66.5	649	828	458	275	96	1.95-2.35
Barley									
1992/93	7.8 <sub>g</sub>	7.3	62.4	456	596	364	80	152	2.05
1993/94	7.9	7.5	57.8	436	612	390	85	137	1.95-2.35
Oats									
1992/93	6.0	4.5	65.6	295	477	358	6	113	1.32
1993/94	6.1	4.1	60.7	250	428	330	5	93	1.25-1.65
Soybeans									
1992/93	59.3	58.4	37.6	2,197	2,477	1,412	775	290	5.60
1993/94	59.5	56.2	34.0	1,909	2,204	1,344	645	215	6.00-7.00
			Lb./acre			Mil. cwt (rough equiv.)			\$/cwt
Rice									
1992/93	3.17	3.13	5,722	179.1	212.6	94.2	79.0	39.4	5.90
1993/94	3.02	2.97	5,677	168.6	214.8	99.5	82.0	33.3	4.75-6.25
			Lb./acre			Mil. bales			¢/lb
Cotton									
1992/93	13.2	11.1	699	16.2	19.9	10.3	5.2	4.7	54.60 <sup>h</sup>
1993/94	13.7	13.3	645	17.9	22.5	10.3	6.3	6.0	**

Based on September 9, 1993 World Agricultural Supply and Demand Estimates; U.S. marketing years for exports, 1992/93 estimates, 1993/94 projections.

<sup>g</sup>Weighted-average price for August 1-April 1; not a season average.

<sup>h</sup>USDA is prohibited from publishing cotton price projections.

See table 17 for complete definition of terms.

- Spring wheat conditions in the top five producing states on September 12 rated 51 percent of the crop good to excellent, 26 percent fair, and 23 percent poor to very poor. Spring wheat harvest was nearly complete in South Dakota and over two-thirds complete in Minnesota.

## Rice Crop Forecast To Be Third Largest

Although rice production in 1993/94 is forecast down 6 percent from the near-record output of a year earlier, it would still be the second-largest crop since

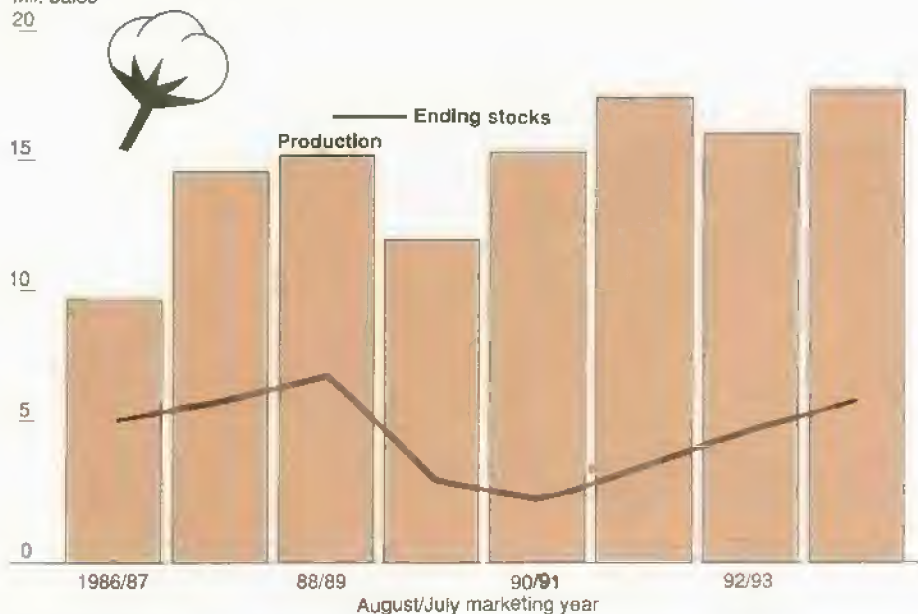
1982/83 and the third largest ever. Yield and area are both down from a year earlier. Lower projected yields dropped the production forecast from August.

- Harvested acreage, forecast at 2.97 million acres, is down from 3.17 million a year earlier but still the second largest since 1982/83.
- Average yield is forecast to be 5,677 pounds per acre, down 55 pounds from a year earlier, but just 72 pounds below 1989's record.

## Agricultural Economy

### Near-Record Cotton Production Expected To Push Stocks Higher

Mill. bales  
20



1993/94 forecast.

- Forecast production is 168.6 million cwt, down 6 percent from the previous year's near-record crop. Long grain production is forecast to drop over 7 percent from a year earlier, while medium and short grain are forecast down 2 percent.
- Domestic use plus residual are projected up 5-6 percent from a year earlier, and exports will likely rise almost 4 percent to 82 million cwt, the highest since 1988/89.
- With smaller production and greater use forecast, ending stocks are projected to drop to 33.2 million cwt, nearly 16 percent below a year earlier. Long grain rice accounts for almost all of the decrease in projected stocks.
- The forecast range for average farm price, \$4.75-\$6.25, is unchanged from August.
- By September 19, harvest was 38 percent complete in the top five producing states, down from 55 percent a year earlier and a historical aver-

age of 45 percent. Harvest had just begun in California, while in Louisiana and Texas harvest was nearly three-fourths complete.

- Almost 99 percent of the rice crop was rated fair to good as of September 19. Arkansas, California, and Texas reported the best crop conditions among the top five states. But in Mississippi, 5 percent of the crop was rated in poor condition, and 75 percent of Louisiana's crop was rated fair.

### Cotton Stocks Expected To Climb

Although dry weather late in the season has adversely affected the cotton crop in some regions of the country, production for 1993/94 is forecast above a year earlier. Production is expected to be near-record, and ending stocks could be the highest since 1988. Cotton harvest, which typically occurs from September in the Southeast to December in the Southwest, is about on schedule.

- Harvested acreage is projected to reach 13.3 million acres, nearly 20 percent above a year earlier.
- Average cotton yields for 1993/94 are projected to be 645 pounds per acre, down from 699 in 1992/93.
- Production is forecast at a near-record 17.9 million bales, up from 16.2 million the previous year and slightly above 1991's 17.6 million bales.
- Total use is forecast at 16.6 million bales, up from 15.5 the previous year. Forecast for a rise in exports of 1.1 million bales plus slightly larger projected domestic use account for the expected increase in total use.
- With production exceeding use in 1993/94, ending stocks are projected to reach 6 million bales, up from 4.66 million a year earlier.
- Cotton development is ahead of schedule, with 67 percent of bolls opened by September 19, up from 50 percent a year earlier and a historical average of 55 percent.
- About 46 percent of the crop was rated in good to excellent condition, up from 43 percent a year earlier. California, Arizona, and New Mexico reported the best crop conditions among the 14 top producing states. However, about one-third of the Southeastern crop was in poor to very poor condition, with Georgia and South Carolina crops the most seriously affected by dry weather.

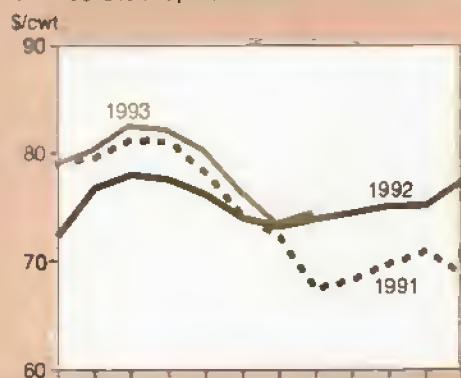
[Grace V. Chomo (202) 219-0840]



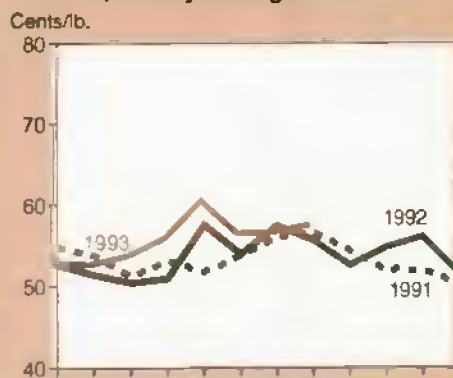
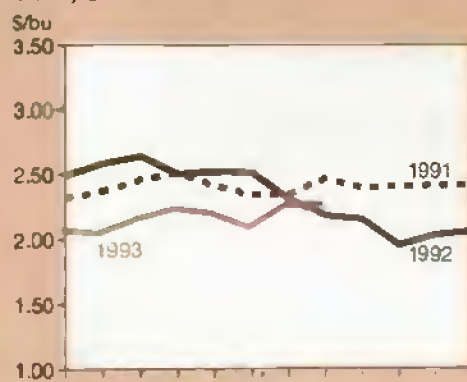
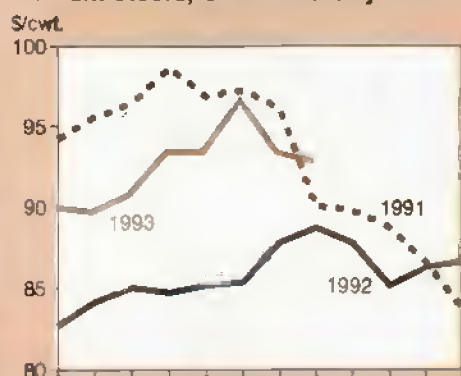
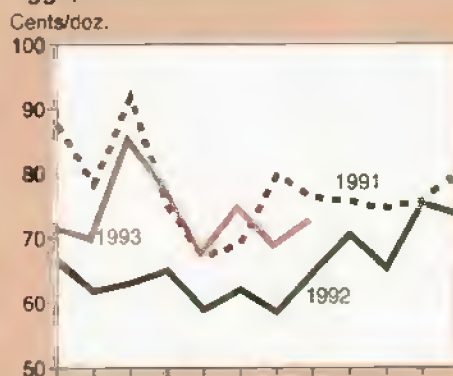
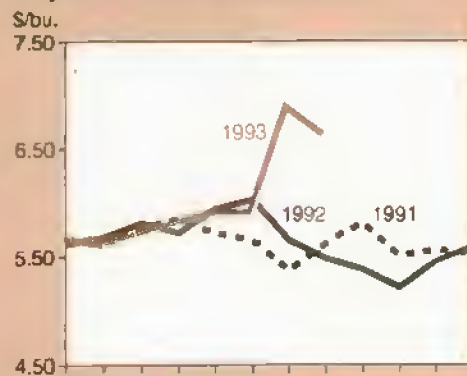
## Commodity Market Prices

## Agricultural Economy

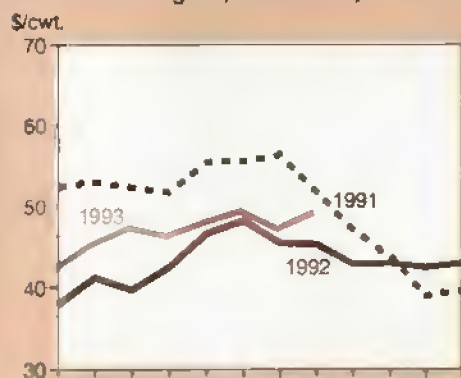
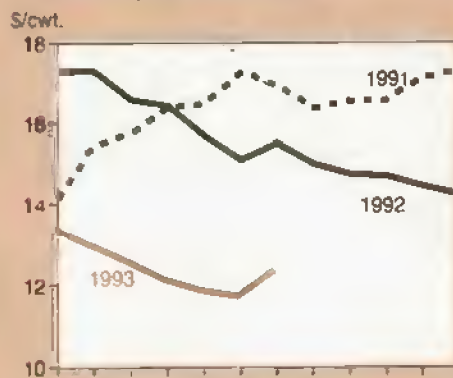
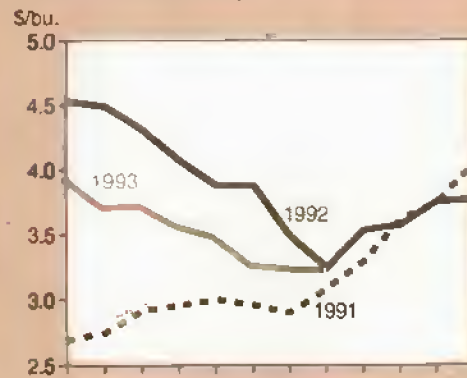
Choice steers, Nebraska



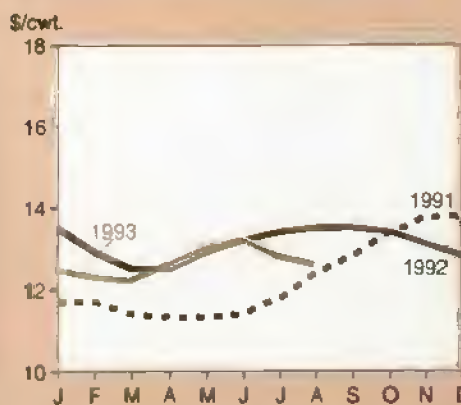
Broilers, 12-city average

Corn, Central Illinois<sup>1</sup>Medium steers, Oklahoma City<sup>2</sup>Eggs, New York<sup>3</sup>Soybeans, Central Illinois<sup>4</sup>

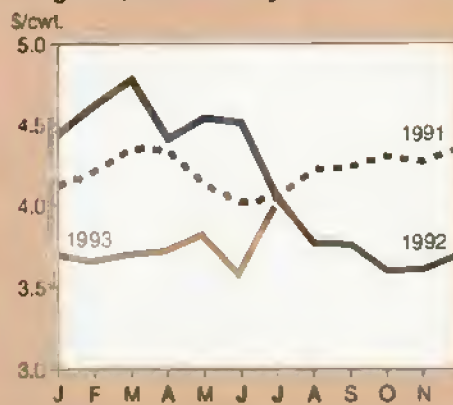
Barrows and gilts, 6 markets, Omaha

Milled rice, SW Louisiana<sup>5</sup>Wheat, Kansas City<sup>6</sup>

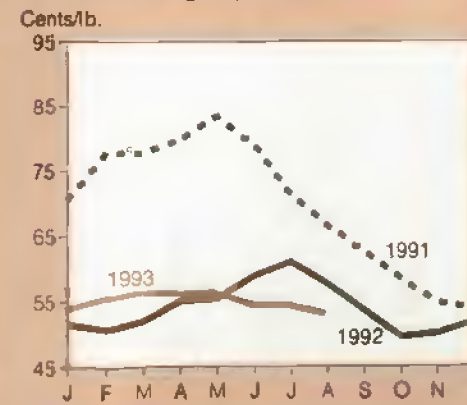
All Milk



Sorghum, Kansas City



Cotton, average spot market

<sup>1</sup>No. 2 yellow. <sup>2</sup>600-700 lbs. medium no.2. <sup>3</sup>Grade A large. <sup>4</sup>No. 1 yellow. <sup>5</sup>U.S. No.2 long-grain. <sup>6</sup>No. 1 HRW.

## Agricultural Economy

### Global Market: Outlook For 1993/94

#### Wheat Imports Contracting

With output projected up further in Russia and the Ukraine, the already low prospective 1993/94 world wheat imports drop further. And expected exports from the U.S., Australia, the EC, and Canada have been lowered again. Thus exporters' supplies continue large and stocks are accumulating, keeping prices low.

- World imports are projected down 9 percent from 1992/93.
- Russia's imports are projected at 8.8 million tons, down from 13.3 million last year, while Ukraine's drop to 1 million from 1.2 million.
- U.S. exports are projected at 30.5 million tons, Australia's at 11.2 million, the EC's at 19.5 million, and Canada's at 18.5 million. While Australia's exports are forecast 23 percent above last year's low level, U.S., EC, and Canadian exports are down 18, 11, and 15 percent, respectively.

#### Coarse Grain Export Competition Sharpens

Import demand for coarse grains remains depressed globally, with the drop mainly in corn. Recent increases in projected corn production in South Africa and the EC raised competing export supplies. Also, production for barley in Canada and other Western Europe rose. Canada's barley exports are projected above last year, while corn exports from South Africa and Argentina also rise, and prospective U.S. exports fall sharply.

- World corn imports are projected down 7 percent from 1992/93, while barley imports rise slightly, but not enough to offset the drop in corn.

- Projected Canadian barley exports are 3.25 million tons, up 30 percent because of expectations for a better quality crop. Exports from Kazakhstan and Western Europe are also expected to rise. The EC remains the largest exporter with exports projected at 6 million tons.

- South Africa and Argentina are expected to export 1 and 6.5 million tons of corn, up from 0 and 5.5 million last year. Exports from China are forecast down only slightly from last season's estimated record-high levels.

- U.S. corn exports, projected at 36.5 million tons, are down 13 percent from estimated 1992/93, and the U.S. share of world corn exports slips to 66 percent from 70 percent last year.

- U.S. barley exports are projected at 1.8 million tons, up from 1.7 million for 1992/93 and more than earlier anticipated.

#### Rice Output To Slip

A cool, wet 1993/94 season, resulting from six typhoons, substantially reduced potential 1993/94 north Asian rice yields. Production has been reduced in Japan and the Koreas, pulling down global prospects. However, both South Korea and Japan maintain strict bans on rice imports, and as a result little effect on world trade is expected. Global import demand remains weak, while exporter competition is still expected to be strong.

- Projected global rice production drops 1 percent from 1992/93, while consumption remains about the same as last season.
- Japan's projected production was recently reduced to 8.7 million tons from 9.8 million last year.
- Output for South Korea was reduced 13 percent, to 4.9 million tons.

- Calendar-year 1994 world imports are projected up marginally, while anticipated U.S. exports are 2.6 million tons, up 200,000.

#### U.S. Soybean Exports Down

U.S. 1993/94 soybean and soybean meal export prospects are expected down from 1992/93, reflecting larger foreign oilseed supplies and slow gains in prospective global consumption. Despite recent improved prospects in some countries, world oilseed output is down, as soybean production remains below last season. World peanut output is also forecast to drop. But the anticipated gains in rapeseed, cottonseed, and sunflowerseed production are expected nearly to offset these declines.

- U.S. 1993/94 soybean exports drop 17 percent to 17.6 million tons and soybean meal exports fall 11 percent to 4.9 million, as U.S. export market share shrinks to 60 percent for soybeans and 18 percent for soybean meal.
- World oilseed and oilmeal use is projected up only 0.8 and 1.5 percent from 1992/93.
- Soybean production is projected at 113 million tons and peanuts at 22.4 million, down 3 percent each.
- Rapeseed output is projected at 26.6 million tons, sunflowerseed at 23.4 million, and cottonseed at 31.9 million, up 2.5, 9, and 1 percent.

#### Cotton Production Flat

Prospects for growth in 1993/94 world cotton production dimmed recently as China reported a smaller-than-expected area planted to cotton. The anticipated drop in China's production limits expected global output to about the same as last year, and raises the U.S. to the position of world's largest cotton producer for the first time since 1981/82.



## Grain Trade Continues To Contract

	Year <sup>1</sup>	Production	Exports <sup>2</sup>	Consumption <sup>3</sup>	Carryover
Million tons					
Wheat	1992/93	560.0	109.8	553.2	135.3
	1993/94	569.5	100.2	563.7	141.0
Corn	1992/93	530.2	60.0	505.7	103.4
	1993/94	474.2	55.7	502.4	75.2
Barley	1992/93	165.4	15.2	166.8	29.9
	1993/94	172.7	16.3	169.9	32.8
Rice	1992/93	350.8	13.7	353.4	52.3
	1993/94	348.5	13.8	356.3	44.5
Oilseeds	1992/93	227.2	38.5	185.1	22.7
	1993/94	226.0	37.8	186.5	20.9
Soybeans	1992/93	116.8	30.5	96.6	20.0
	1993/94	113.0	29.3	97.0	17.5
Soybean meal	1992/93	76.5	27.7	75.3	3.5
	1993/94	77.0	28.2	76.1	3.5
Soybean oil	1992/93	17.2	4.3	17.3	1.9
	1993/94	17.6	4.3	17.5	1.7
Million bales					
Cotton	1992/93	82.6	25.2	86.9	37.5
	1993/94	83.0	26.7	87.4	33.2

<sup>1</sup> Marketing years are: wheat, July-June; coarse grains, October-September; oilseeds, soybeans, meal, and oil, local marketing years except Brazil and Argentina adjusted to October-September trade; cotton, August-July. <sup>2</sup> Rice trade is for the second calendar year. All trade now has been inflated to include trade among the countries of the former Soviet Union. In addition, for the first time, rice trade, like other grain trade, excludes intra-EC trade. Oilseed and cotton trade, however, still include intra-EC trade. <sup>3</sup> Crush only for soybeans and oilseeds.

With stable output in 1993/94, global consumption is projected well above production, drawing down the previously surplus world stocks to more normal levels. Trade continues to show limited growth, but since only small gains are expected by foreign competitors, the U.S. share of world exports is expected to grow.

- World output is projected at 83 million bales, little changed from 1992/93's 82.55 million.
- China's expected outturn is lowered to 17.5 million bales from 20.7 million last year, as area reportedly fell from more than 6.8 million hectares to an estimated 5 million. Much of

the area drop apparently occurred in the three formerly largest producing provinces—Shandong, Henan, and Hebei—where bollworms drastically cut production last year and are affecting yields again this year.

- World ending stocks-to-use ratios drop from 43 percent last season to 38 percent this season; average stocks-to-use has been 39 percent between 1986 and 1992.
- Global trade is projected up 1.5 million bales.

- U.S. exports rise 21 percent to 6.3 million bales. Foreign exports, at 20.4 million, are expected to grow only 2 percent and U.S. market share climbs to 23.6 percent, from 20.7 percent last season.

[Carol Whitton (202) 219-0824]

For further information, contact: Sara Schwartz, world wheat; Randy Schnepf, world rice; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Pete Riley, world feed grains; Tom Tice and Jim Cole, domestic feed grains; Nancy Morgan and Jaime Castaneda, world oilseeds; Scott Sanford and George Douvelis, domestic oilseeds; Steve MacDonald, world cotton; Bob Skinner and Les Meyer, domestic cotton. World information (202) 219-0820; domestic (202) 219-0840. **AO**

## Livestock, Dairy & Poultry Overview

*Larger beef supplies in 1994, coupled with greater pork and poultry production, are expected to put downward pressure on red meat and poultry prices. In general, meat prices will likely average about the same to slightly lower in 1994 than this year. With feed costs expected slightly higher through first-half 1994, net returns to red meat and poultry producers will likely be below their 1993 average. Egg producers can also expect lower returns in 1994, with production growth dampening egg prices. Large dairy supplies will limit any rise in wholesale dairy and farm milk prices.*

*Seasonally strong demand for hams and turkeys during the 1993 holiday season will help boost pork and turkey prices slightly above last year. Beef and broiler prices, on the other hand, are*

## Agricultural Economy

*expected to average about the same to slightly lower than a year earlier. Egg prices will likely increase for the fall holiday season before dropping, and average well above 1992. Farm milk prices probably will stay below a year earlier during the rest of 1993 as commercial dairy stocks remain large.*

### Beef Prices To Drop

Placement of cattle in feedlots is expected to increase seasonally for the remainder of this year, ensuring larger supplies of fed beef well into 1994. Cow slaughter is forecast to be slightly higher in 1994 than this year. A larger proportion of cow slaughter will come from beef cows, with selective culling of older beef cows continuing into 1994. A year-over-year decline in dairy cow numbers is expected to reduce dairy cow slaughter.

Cow beef prices are dropping due to pressure from increasing supplies of end cuts from feedlot cattle. Additional price weakness seems likely as seasonally larger cow slaughter continues into November.

Larger fed and nonfed cattle slaughter will lead to an increase in beef production in 1994. The largest year-to-year gains will occur in the first half of 1994. Increased beef supplies and another year of record pork and poultry production are expected to reduce retail Choice beef prices in 1994. Coupled with higher expected feed costs in 1994, net returns to beef producers are likely to decline slightly in 1994 from a year earlier.

- Beef production is expected to increase 3-4 percent in 1994.
- Fed cattle marketings will likely rise 1-2 percent in 1994, as feeder cattle supplies continue to expand from this year's larger calf crop.
- Marketings are forecast to reach 26 million head in 1994, up from 25.5 million head this year.

- Fed cattle prices are expected to average in the mid-\$70's per cwt for much of 1994, below this year's \$77 average.
- Dressed slaughter weights in 1994 are expected to be 10 to 12 pounds higher than this year's, as weights return to the record levels of 1992.
- Retail beef prices are forecast to average around \$2.85 per pound in 1994, near the average for 1992 and 1991, but below this year's expected average of \$2.93 per pound.
- Retail beef prices declined to \$2.91 in August, and will continue to decline this fall from the record highs set this past spring.
- Per capita beef consumption in 1994 is forecast to reach 67 pounds, up nearly 2 pounds from the cyclical low recorded in 1993.
- Prices for 600- to 700-pound yearling steers at Oklahoma City in second-half 1993 and much of 1994 are expected to average in the mid- to upper \$80's per cwt.

### Hog Output To Be Up in 1994

Pork production is expected to be larger in 1994 than this year, causing producer prices to drop. But composite retail prices will likely stay above year-earlier levels during most of 1994 since pork products were frequently featured during the first half of 1993.

Based on the June 1 *Hogs and Pigs* report, summer hog slaughter was expected to be larger than a year earlier. However, third-quarter hog slaughter likely averaged about 4 percent lower, boosting hog prices above expectations.

With beef prices dropping, pork has lost its relative price advantage for retail featurings. Without featurings, farm-to-retail pork price spreads will continue to expand from a 3-year low. Anticipated higher feed prices and lower producer

prices will likely reduce hog producers' returns in 1994.

- Pork production is expected to reach 17.8 billion pounds in 1994, up from 17.2 billion this year.
- Barrow and gilt prices will likely average \$44 per cwt in 1994, down from \$45 estimated for this year.
- Barrow and gilt prices averaged \$49 per cwt in August, compared with expectations in the mid-\$40's as the slaughter rate was well below projections. In September, prices remained in the high 40's per cwt as slaughter remained below a year earlier.
- The composite retail pork price averaged \$1.99 per pound in August, down a cent from a month earlier and a year earlier.
- The pork farm-to-retail price spread moderated in August after a sharp rise in July. Spreads were generally steady in March-June, and were the lowest in about 3 years.

### Broiler Prices To Decline

Broiler output is expected up in 1994, closely matching this year's performance. Lower prices and higher feed costs will cause net returns to drop, but remain positive, in 1994. Although net returns will decline in fourth-quarter 1993 due to higher feed costs and slightly lower broiler prices, returns will still be positive.

Hot weather in broiler producing areas reduced bird weights, but third-quarter production is still expected to be 5-6 percent above a year earlier. Although reduced weights and good product movement caused wholesale broiler prices to rise during early- to mid-August, wholesale prices declined later in the month as higher prices slowed sales. Third-quarter prices are estimated at 55-56 cents per pound.



## Agricultural Economy

## U.S. Livestock and Poultry Products—Market Outlook at a Glance

		Beginning stocks	Production	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price
								Total	Per capita	
		----- Million lbs -----						----- Lbs. -----		\$/cwt
Beef	1993	360	23,216	2,410	25,985	1,300	350	24,336	66.0	76-78
	1994	350	23,918	2,370	26,638	1,400	350	24,868	66.9	71-77
Pork	1993	385	17,232	670	18,287	405	385	17,497	52.6	45-47
	1994	385	17,824	680	18,889	425	375	18,089	53.9	41-47
-----										
Broilers	1993	33	22,027	0	22,059	1,745	33	20,281	69.1	53-55
	1994	33	23,077	0	23,110	1,830	33	21,247	71.7	50-56
Turkeys	1993	272	4,843	0	5,115	187	260	4,668	18.1	60-62
	1994	260	4,921	0	5,181	202	275	4,704	18.0	57-63
-----										
		----- Million doz. -----						----- No. -----		¢/doz.
Eggs*	1993	13.5	5,938.8	5.0	5,957.3	154.6	12.0	5,033.6	234.0	72-74
	1994	12.0	5,990.0	4.5	6,006.5	157.0	12.0	5,057.5	232.9	67-73

Based on September 9, 1993 World Agricultural Supply and Demand Estimates. 1993 estimates. 1994 projections.

\*Total consumption does not include eggs used for hatching.

See tables 10 and 11 for complete definition of terms.

Prices are expected to decline seasonally during the fall, averaging slightly below a year ago. Average wholesale prices for 1993 will likely be a couple of cents above last year and the highest since 1990. U.S. broiler exports are increasing to a record level in 1993, and will continue to support broiler prices in 1994.

- Broiler production will likely increase 5 percent in 1994, reaching 23 billion pounds. Production for 1993, estimated to be 22 billion pounds, is expected to be up more than 5 percent from last year.
- Broilers slaughtered in August averaged 0.17 pounds lighter than birds slaughtered during June and were lighter than birds slaughtered a year earlier.
- Net returns for broiler producers in 1994 are forecast at 7 cents a pound, down from around 9 cents in 1993.

- Net returns to wholesale broiler producers for the first 8 months of 1993 averaged nearly 10 cents per pound, enough to encourage further expansion. Third- and fourth-quarter net returns are estimated at 9-10 and 5-6 cents a pound.
- Wholesale broiler prices are forecast to average in the low 50-cents-per-pound range in 1994, compared with 53-55 cents expected for 1993. Prices will likely average about 52 cents per pound in fourth-quarter 1993, down from 53 cents a year earlier.
- U.S. broiler exports in 1994 are forecast at 1.8 to 1.9 billion pounds and again will equal about 8 percent of production.
- U.S. broiler exports in 1993 are expected to rise 15-20 percent from a year earlier to 1.7 to 1.8 billion pounds and be equal to 8 percent of production. In 1989, exports were less than 5 percent of broiler output.

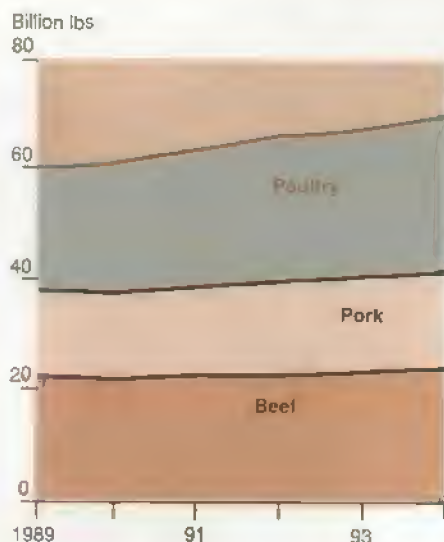
### Low Returns to Turkey Producers

Continuing slow growth in turkey output expected in 1994 reflects weak returns to producers on a whole-bird basis. On the positive side, the outlook is for growing exports and lower stocks than a year earlier. Fourth-quarter 1993 turkey production is expected about the same to slightly higher than a year earlier. Poultry placements for fourth-quarter production were 1 percent below a year earlier. However, heavier slaughter weights have offset the decline in the placement numbers.

Wholesale turkey prices in 1994 are expected to remain about the same as this year. Turkey meat products will continue to face strong price competition from other meats. Hen prices are expected to strengthen seasonally in the fourth quarter of 1993. Hen prices were weak in the first half despite slow production growth and rising exports. During the third quarter, hen prices, aided by increased purchases, rose seasonally and moved above a year earlier for the first time since February.

## Agricultural Economy

### Poultry Leads U.S. Meat Production To Record High



Federally inspected production. Poultry includes broilers, mature chickens, and turkeys. Red meats are on a carcass-weight basis and poultry on a ready-to-cook basis 1994 forecast.

Net returns to turkey producers, hit by higher feed costs and flat wholesale prices, will likely average slightly below breakeven in 1994. For 1993, returns are expected to average slightly above breakeven, aided by relatively low feed costs during the first half of 1993. Fourth-quarter returns, boosted by better prices, are expected to average slightly above breakeven despite higher feed costs. The fourth quarter likely will have the first year-over-year increase in feed costs since third-quarter 1992.

- Turkey production in 1994 is expected to be up just 1-2 percent from 1993, reaching nearly 5 billion pounds. Growth is expected slower than in 1991 and 1992.
- An estimated 285 million turkeys will be raised in 1993, about 1 percent less than in 1992.
- Eastern region hens are expected to average 55-61 cents per pound in first-quarter 1994, compared with 57.8 cents in 1993.

- Eastern region hen prices are expected to average 61-67 cents per pound in fourth-quarter 1993, about the same as a year earlier.
- Net returns in 1994 are expected to dip below this year's level, which was slightly above 1992.

Turkey exports in 1994 are expected to reach yet another record. Nearly all the export growth in 1993 has been in shipments to Mexico. South Korea is the second leading export market for U.S. turkey, and is also rapidly increasing purchases. Both importers will likely remain strong markets for U.S. turkey in the future.

- Exports during 1994, exceeding 200 million pounds, will likely equal 4 percent of production, compared with about 1 percent in 1990.
- Mexico has increased purchases of U.S. turkeys in 1993 by about 25 percent from last year and accounts for 65 percent of U.S. turkey exports.

### Egg Output Higher, Prices To Drop

Egg production is likely to be up in 1994 from a year earlier due to favorable net returns expected in second-half 1993 and all of 1994. Because more chicks were hatched during the first half of 1993, more pullets will be available for entry into the production flock during the second half, putting downward pressure on wholesale and retail egg prices.

Average feed costs are likely to continue above a year earlier in 1994, and combined with expected lower egg prices, will pull wholesalers' net returns a few cents below 1993's average.

- Table-egg production will increase 1 percent in 1994, with flock size larger. First-quarter 1994 egg production is expected to be about 1.3 billion dozen, up 1 percent from a year earlier.

- First-quarter 1994 prices for large eggs are expected to be in the low 70's per dozen and about 70 cents for the year, compared with an estimated 72-74 cents for 1993.
- Net returns for 1994 are expected to be 5 cents a dozen, while returns for 1993 are estimated at 10 cents.
- Net returns for egg producer-wholesalers averaged about 10 cents a dozen for the first 8 months of 1993, 13 cents above last year's negative returns. While returns will be limited by higher feed costs in the second half, they will remain well above breakeven.
- Feed costs per dozen eggs in 1994 are expected to be 1 cent higher than this year.
- Per capita egg consumption in 1994 is forecast at 233 eggs, compared with 234 estimated for 1993.
- Boosted by lower prices, U.S. egg exports are expected to increase in 1994 to about 157 million dozen, shell-egg equivalent.
- Lower U.S. egg prices are expected to cause egg imports to decline in 1994. Egg imports have been increasing in 1993, and are estimated to be 5 million dozen, shell-egg equivalent.

### Dairy Supplies To Remain Large

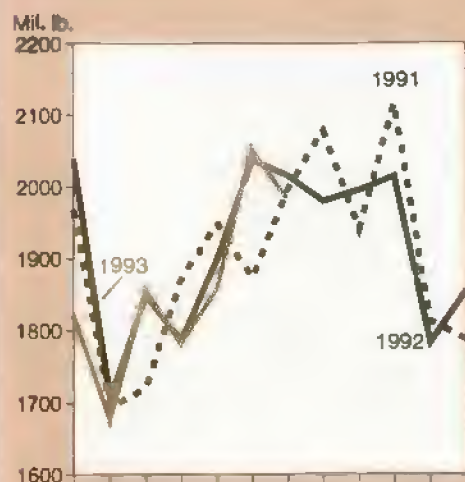
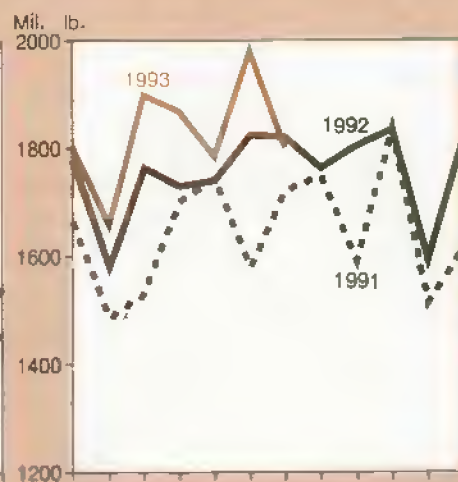
Large commercial dairy stocks may moderate recent rises in wholesale cheese prices and potential recovery in farm milk prices. Inventories will keep supplies ample even if growth in milk production halts and consumer demand recovers as expected.



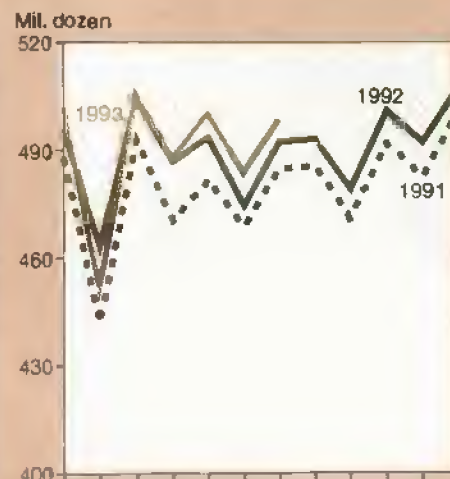
## Livestock &amp; Product Output

## Agricultural Economy

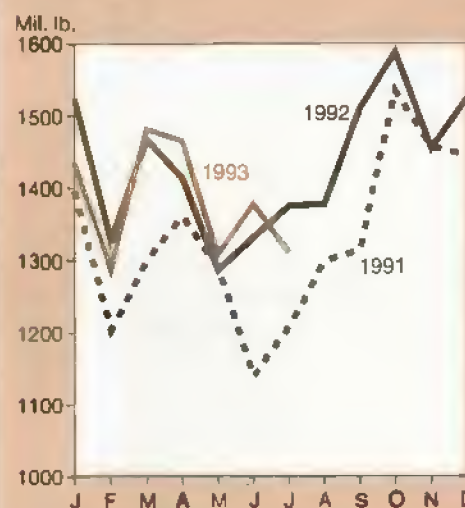
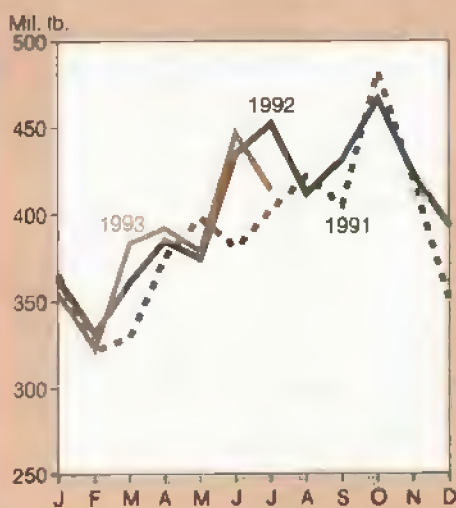
Commercial beef

Broilers<sup>1</sup>

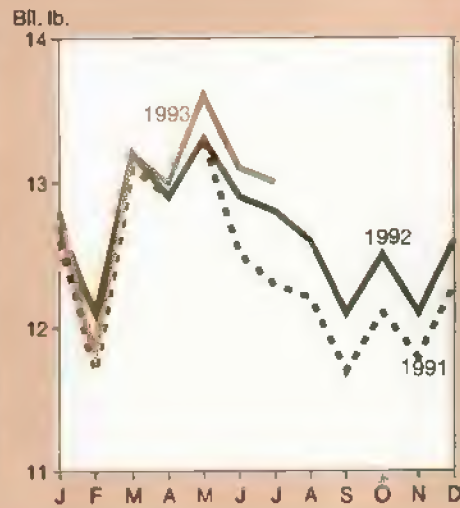
Eggs



Commercial pork

Turkeys<sup>1</sup>

Milk



<sup>1</sup>Federal inspection production, ready-to-cook.

Holdings, particularly of nonfat dry milk, swelled in May and June as commercial use of both nonfat dry milk and of American cheese fell. Overall economic performance limited any growth in consumer demand, and wholesale buyers held purchases to a minimum as long as prices were falling.

- On August 1, commercial dairy stocks were equivalent to more than 7 billion pounds of milk (skim solids basis), the largest since 1980.

- Manufacturers' stocks of nonfat dry milk on August 1 were the largest on that date in almost 20 years, equaling 3 months' commercial use.
- Commercial stocks of American cheese were more moderate than those of nonfat dry milk, but were still the largest in 12 years. Stocks of other cheese varieties have been large but more stable.

- August 1 commercial stocks of milkfat were not excessive; commercial butter holdings were the lowest ever recorded on that date.

**For further information, contact:**  
Richard Stillman and Agnes Perez, coordinators; Steve Reed, cattle; Leland Southard, hogs; Lee Christensen, Larry Witucki, and Milton Madison, poultry; Jim Miller, dairy. All are at (202) 219-1285. **AO**

## Agricultural Economy

# Specialty Crops Overview

*The 1993 crops of tobacco, navel oranges, and grapes are expected to be lower than last year, while output of mushrooms and of dry beans are expected up. Apple production in 1993 is expected to reach a record high.*

*The large apple crop will likely keep downward pressure on grower prices, while reduced production of navel oranges and grapes is expected to boost prices. Mushroom prices are mixed, with fresh-market prices up slightly and processed prices down. Prices for major types of dry beans have moved higher since July because current crop prospects are lower than earlier expectations. Tobacco prices are also mixed, with flue-cured prices down due to poor leaf quality, but burley prices expected about the same as last year.*

## Mushroom Output Up In 1992/93

U.S. mushroom production rose in 1992/93 (July-June), the eighth consecutive year-over-year increase. Expansion of the domestic industry has accompanied population growth and the substitution of processed domestic production for imported processed mushrooms. U.S. per capita use of fresh and processed mushrooms, however, has remained flat over the past 6 years.

Mushrooms are the fourth-highest value vegetable crop after potatoes, tomatoes, and lettuce. Fresh mushrooms usually trade within a narrow price range, suggesting a relatively consistent supply. Because mushrooms are grown indoors, there are fewer weather-caused supply disruptions than with most fresh fruits and vegetables.

- U.S. mushroom production rose 28 percent between 1986/87 and 1992/93, with the largest increase occurring in mushrooms for processing. Production for processing rose 50 percent during this period, while production for fresh use rose only 14 percent. The farm value of domestic mushroom sales rose 29 percent to \$669 million.
- Grower prices for fresh-market mushrooms, up slightly in 1992/93, have been essentially flat since 1988. Prices for processing mushrooms declined 12 percent between 1988/89 and 1992/93, likely reflecting increased production efficiency in the U.S. mushroom industry.
- U.S. mushroom use per capita, after nearly tripling between 1970 and 1986, has remained relatively flat at about 3.5 pounds in the past 6 years. About half of U.S. production is consumed as fresh mushrooms and half is processed.
- Production of Shiitake, oyster, and other specialty mushrooms has doubled since 1986/87, but remains a small share of the total. Specialty mushrooms accounted for only 1 percent of mushroom output in 1992/93, and agaricus (mostly white button-type) mushrooms amounted to 99 percent.
- Growers indicate they plan to reduce area devoted to agaricus mushrooms by 1 percent in 1993/94. Producers of specialty mushrooms plan increases of 6 to 18 percent.
- Mushrooms are now produced by fewer and larger growers. The number of button growers declined from 413 in 1986/87 to 195 in 1992/93. Five of the largest growers account for more than half of total output.

- Pennsylvania growers supplied 48 percent of all button mushrooms grown in the U.S. in 1992/93. California ranked second with 17 percent.

## Dry Bean Prices Move Up

Increased harvested acreage and higher yields are expected to boost U.S. dry edible bean output (total for all types) in 1993. Grower prices for the major types of dry beans have moved higher since July despite the larger production forecast, because current prospects for the year are lower than earlier expectations.

- Total dry bean output in 1993 is forecast at 24.8 million cwt, 13 percent higher than last year's small crop, but 26 percent below the 1991 record.
- Dry bean output in North Dakota, a major pinto bean state, is forecast 23 percent lower than in 1992 and 52 percent lower than 2 years ago. About a fifth of North Dakota's acreage was estimated as lost due to excessive rains and flooding. Grower prices for pinto beans increased 15-20 percent during August as North Dakota's output prospects diminished.
- Dry bean output in Michigan, the major Navy bean state, is forecast 57 percent higher than 1992. Grower prices for Navy beans strengthened slightly during August, but are about \$3 a cwt lower than a year earlier.
- Nebraska's production for all types of dry beans is forecast 14 percent higher than in 1992, but 28 percent below 2 years ago. Although Nebraska is the major producer of Great Northern beans, Nebraska's Great Northern acreage is down and production is expected to drop. Great Northern prices are about \$5 a cwt higher than a year earlier when large unsold stocks depressed prices.



## Legislation Requires Use of Domestic Tobacco

The Omnibus Budget Reconciliation Act of 1993 (Public Law-103-66), signed August 10, includes a requirement that U.S.-manufactured cigarettes contain at least 75 percent domestic leaf. The law is expected to boost use of U.S.-grown tobacco.

The share of domestic tobacco in U.S.-manufactured cigarettes dropped below 60 percent last year, as manufacturers shifted to cheaper imported leaf and stems. Many U.S. cigarette smokers have switched from higher priced premium brands to discount-brand cigarettes during the last 2 years. To reduce costs, manufacturers increased the proportion of imported leaf and stems in cigarettes. Unmanufactured tobacco imports rose 65 percent between 1990/91 (July-June marketing year) and 1992/93.

Among the key provisions of the new legislation:

- U.S. cigarette manufacturers must use at least 75 percent U.S.-grown tobacco during each calendar year in producing cigarettes. The provision applies to all cigarettes manufactured within the U.S., whether for domestic consumption or export.
- The domestic content level can be temporarily set below 75 percent if the Secretary of Agriculture determines that natural disaster conditions have reduced domestic tobacco production.
- Manufacturers who use less than 75 percent U.S.-produced tobacco, or who fail to certify the percentage of U.S.-grown tobacco used, will be subject to a marketing assessment penalty equivalent to what the manufacturer would have paid for U.S.-grown tobacco.
- Manufacturers who violate the law must purchase an amount of flue-cured and burley tobacco from the loan associations equal to each pound of imported tobacco used in excess of the 25-percent allowable rate.

The new legislation also imposes two new assessments on importers: a budget-deficit marketing assessment and a no-net-cost assessment.

Since 1991, U.S. growers and purchasers of domestic leaf have each paid a marketing assessment, equal to 0.5 percent of the average price support, to help reduce the Federal budget deficit. Importers will pay a new marketing assessment imposed at approximately twice the per-pound rate collected from purchasers of domestic tobacco for the 1994-98 crops.

No-net-cost assessments, which vary from year to year, cover projected losses in operating the tobacco price support program. U.S. growers have paid no-net-cost fees since 1982, while purchasers of flue-cured and burley began paying these fees in 1986. The new no-net-cost assessment will be paid by importers of flue-cured or burley tobacco at the rate of the combined fees collected from producers and purchasers of U.S.-grown flue-cured and burley leaf.

Other provisions require that inspection and grading fees charged on imported tobacco be set comparable to those for domestic producers. There is a limit on the reduction in the national marketing quota for flue-cured and burley tobacco. The new act extends to 1996 a provision in the quota law that limits the reduction in the national flue-cured and burley marketing quota to no more than 10 percent from the preceding year. The provision can be waived in 1995 and 1996 to allow greater reductions in the quota if trigger levels are reached and loan stocks have become excessive.

The new legislation is expected to boost the use of U.S.-grown tobacco over the next 1-2 years as manufacturers reduce foreign-grown leaf content in cigarettes. However, a number of developments could potentially offset the intended effects of the legislation:

- Tobacco that would have been shipped to the U.S. for manufacture may displace U.S. tobacco in other world markets.
- Some customers who both buy and sell leaf to U.S. companies may retaliate against the new import restrictions by reducing purchases of U.S. tobacco.
- Over the longer term, U.S. cigarette companies could avoid the new restrictions by moving their export manufacturing operations to foreign locations.

[Verner Grise (202) 219-0883]

## Navel Orange & Grape Crops Smaller

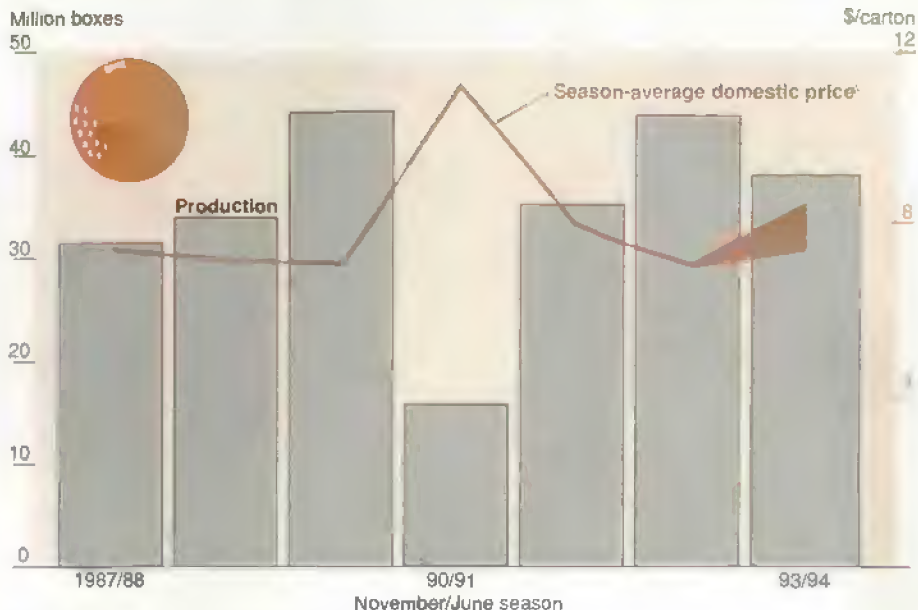
Output of California navel oranges in 1993/94 is expected to be lower than last year, bolstering grower prices. Lower

wine grape prices in California are expected to depress the grower average grape price for 1993. And record-large apple production will keep downward pressure on apple prices in 1993/94.

- USDA's first forecast for 1993/94 California navel oranges (marketing season November 1-June 15) indicates production down 13 percent from a year earlier. The smaller crop is expected to raise fresh navel orange prices from last season.

## Agricultural Economy

### Smaller Navel Orange Crop Is Expected To Strengthen Grower Prices



\*1993/94 forecast. Boxes hold 75 pounds, cartons 37.5 pounds.  
Source: Prices from Navel Orange Administrative Committee.

- U.S. apple production is forecast up 1 percent in 1993, at 10.8 billion pounds. The large crop will keep downward pressure on grower prices, which fell 25 percent in 1992/93 because of record-large production in 1992, lower exports to the EC, and sluggish domestic demand.
- U.S. grape production is forecast 7 percent lower in 1993 due to a smaller crop in California, which accounts for about 90 percent of U.S. output. Despite the smaller crop and strong demand for fresh grapes and raisins, lower wine grape prices could pull the grower average price below the 1992 return.

### Tobacco Prices Decline

Drought in the flue-cured tobacco areas continued lowering output prospects for the 1993 crop, already diminished by excess moisture early in the growing season. Despite higher price supports and

recent legislation requiring minimum domestic tobacco content in U.S.-manufactured cigarettes, the drought-stressed crop is bringing lower prices.

- The September estimate of 1993 tobacco output, 1.54 billion pounds, was 7 million pounds lower than the August estimate. The decline was in flue-cured production, hit hardest by the dry weather in the Southeast this summer. Flue-cured tobacco output was estimated at 826 million pounds in September.
- Burley output was estimated at 620 million pounds in September, 2 million pounds higher than the August forecast. Some major burley growing areas received beneficial rains during August, which helped boost output prospects.
- Grower prices for flue-cured tobacco fell during August and early September, reflecting large marketings of unripe and immature leaf. Quality of the current crop is reported mixed, with some good-quality leaf

but much that is not. Prices were averaging about 3 cents a pound lower than in 1992.

- Burley prices are expected about the same as in 1992, providing leaf quality is good. Burley auction markets open in late November.

#### For further information, contact:

Dennis Shields and Diane Bertelsen, fruit and tree nuts; Gary Lucier, vegetables; Peter Buzzanell, sweeteners; Doyle Johnson, greenhouse/nursery; Verner Grise, tobacco (202) 219-0883. David Harvey, aquaculture; Lawrence Glaser, industrial crops (202) 219-0085. **AO**

### October Releases from USDA's Agricultural Statistics Board

The following reports are issued at 3 p.m. Eastern time on the dates shown.

#### October

- 1 Trout Production
- 4 Crop Progress (after 4 p.m.)  
Egg Products  
Poultry Slaughter
- 5 Dairy Products
- 6 Broiler Hatchery
- 12 Cotton Ginnings  
Crop Production  
Crop Progress (after 4 p.m.)
- 13 Broiler Hatchery
- 14 Turkey Hatchery
- 15 Milk Production  
Vegetables
- 18 Crop Progress (after 4 p.m.)
- 20 Broiler Hatchery
- 21 Catfish Processing  
Eggs, Chickens, & Turkeys
- 22 Cattle on Feed  
Cold Storage  
Livestock Slaughter
- 25 Cotton Ginnings  
Crop Progress (after 4 p.m.)
- 27 Broiler Hatchery
- 28 Peanut Stocks & Processing
- 29 Agricultural Prices  
Catfish Production  
Rice Stocks



## Commodity Spotlight



Warner Lambert Company

## Industry Using More Ag Products

**R**ecent scientific advances are reducing the costs of producing and processing agricultural products for use as industrial raw materials. In addition, advances in process engineering are making farm-based products more competitive with synthetic materials.

Scientific gains, along with Federal and state environmental regulations and growing consumer preference for "green" products, are expanding industrial demand for agricultural materials. The Institute for Local Self-Reliance, a Washington D.C.-based nonprofit organization, estimates that industrial demand for plant matter, excluding paper and natural rubber, could increase by over 5 million tons in the next 3 years, nearly doubling the amount used in 1990.

Industrial products made from agricultural materials include ethanol, adhesives, biodegradable polymers, soy-oil inks, biodiesel fuel, kenaf-based packing materials and animal litter, and erosion-control products.

## Cornstarch Finds Multiple Uses

Over the next 4 years, increased demand for fuel ethanol, adhesives, and biodegradable polymers will expand industrial use of starches and sugars. Cornstarch, which is currently less expensive than starch from other sources, has captured most of the industrial starch market. Industrial demand for starch, in corn-equivalent units, is expected to reach 795 million bushels by market-year 1995/96 (September-August), up 140 million from 1992/93, about an 8-percent annual rise.

The ethanol industry estimates demand for all fuel-oxygenate additives—as a result of the 1990 Clean Air Act Amendments—to be 3.7 billion gallons (ethanol equivalent) by market-year 1995/96, or more than three times current ethanol production. Market analysts estimate that corn-based ethanol will capture approximately 35 percent of the fuel-oxygenate market by 1993. Most of the remaining demand will be met with methyl tertiary butyl ether, a compound derived primarily from natural gas.

Assuming that market shares remain constant, demand for fuel ethanol is expected to reach 1.3 billion gallons by 1995/96. To satisfy this demand, an additional 123 million bushels of corn would be needed between 1992/93 and 1995/96 for the fuel ethanol market. This would raise use of corn for fuel ethanol production to approximately 568 million bushels by 1995/96.

A second industrial use for starch is in adhesives. In 1990, the U.S. used about 5 million short tons of adhesives, with market value of over \$2 billion. Many of the adhesives were made with petroleum-based chemicals. However, natural adhesives accounted for over 40 percent of the market and continue to hold on to that share.

Starch dominates the natural adhesives market. Currently, about 3.5 billion pounds of starch, mostly corn, is used annually to make adhesives, primarily for the paper and paperboard industry.

While most of the starch is from corn, starch from wheat and potatoes is also used to make adhesives.

Domestic demand for adhesives is projected to exceed 5.5 million short tons by 1995/96—an increase of 2.4 percent annually. This translates into an additional 600 million pounds of cornstarch, or an 18-million-bushel increase in corn demand by 1995/96.

Starch is also the dominant or exclusive ingredient in biodegradable polymers that compete with petroleum-based plastic materials and resins. Use of biodegradable polymers in place of petroleum-based plastics slows the emission of fossil-fuel-derived carbon dioxide into the air.

Producers have targeted four markets for biodegradable polymers: food packaging, nonfood packaging, personal and health care items, and other disposables. Since the Food and Drug Administration has not yet established guidelines for degradable food packaging, nonfood packaging will be the key market in the near future.

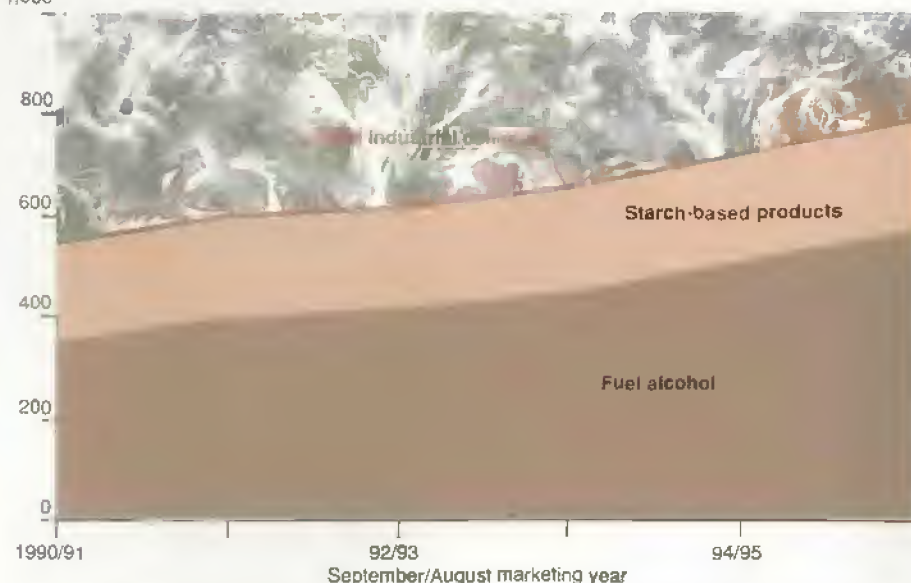
In 1992, biodegradable polymer resins captured less than 0.08 percent, or under 5 million pounds, of the plastics resin market. Assuming Congress does not mandate increased biodegradable polymer use, penetration of biodegradable polymers into the 8-billion-pound nonfood packaging market will likely be slow. A conservative estimate puts total demand for biodegradable polymers at 8.4 million pounds by 1995/96.

Another factor affecting industrial use of biodegradables is the MARPOL Treaty, which prohibits discharge of all plastic wastes at sea, beginning in 1988 for commercial vessels, and in 1994 for government ships. In response, the U.S. Army—in conjunction with USDA and private companies—is developing biodegradable polymers to replace petroleum-based plastics for most military food and packaging uses. Many of these polymers are made from corn, wheat, and potato starch. They are fully degradable and generally cost 2 to 10 times more than petroleum-based plastics.

## Commodity Spotlight

### Fuel Alcohol Is Expected To Continue as Dominant Industrial Use of Corn

Million bu.  
1,000



1993/94 through 1995/96 forecast.

### Oils & Fats Yield Biodiesel Fuel & Soy Ink

In 1992, 5.9 billion pounds of fats and oils was used in fatty acids, animal feeds, soaps, resins and plastics, paints and varnishes, lubricants, and other industrial products. During the last 7 years, these products have accounted for 27-30 percent of total annual use of fats and oils. Two new uses for fats and oils, soy inks and biodiesel fuel, could increase that share.

In general, inks consist of a fine dispersion of pigments or dyes in a solvent medium (or vehicle), with or without resins and other additives. Since conventional inks depend heavily on petroleum-based raw materials, the ink industry faced problems during the oil crisis of the 1970's, in terms of both cost and availability of raw materials. In response, soybean-oil-based inks were developed by the American Newspaper Publishers Association for its members.

Starting with only six newspapers in 1987, half of the nation's 9,100 newspapers that use color ink have adopted color soy ink. This includes 75 percent

of the 1,700 U.S. dailies. Despite their slightly higher per-unit price, color soy inks have been widely adopted because of their superior performance over color petroleum-based inks—brighter colors and more printed pages per volume of ink. Black soy inks have not been as price competitive as color soy inks. Color ink prices are based primarily on pigment costs, while prices for black printing inks are determined largely by the price of the oil vehicle. Refined soybean oil is generally more expensive than petroleum-based mineral oil.

Printers use soy inks for other reasons as well. They improve press operation and cleanup, lower worker exposure to harsh petrochemicals, and reduce emissions of volatile organic compounds (VOC's). VOC's are among the principal components of chemicals that react in the air to form ozone, which in the lower atmosphere is a pollutant that may cause respiratory problems. Compared with petroleum-based inks, with VOC ratings of 25 to 40 percent, soy ink manufacturers report VOC ratings of less than 10 percent. Most color soy inks are between 2 and 4 percent.

Biodiesel fuel, a substitute for petroleum-based diesel fuel, can be made from vegetable oils, animal fats, and waste grease from restaurants and fast-food establishments. Unmodified diesel engines can burn biodiesel fuel in either a pure form, or blended with petroleum-based diesel fuel.

Biodiesel fuel was first commercially produced in Austria in 1990 with government support. Recent reforms in the European Community's (EC) Common Agricultural Policy, as well as incentives in individual EC member countries, are likely to increase production of crops used to make the fuel. Methyl ester, the most common type of biodiesel fuel produced in Europe, is made primarily with rapeseed and sunflower oils. Diesel engines in Europe are burning both blended and unblended biodiesel fuel.

Several objectives must be met before biodiesel fuel is used commercially in the U.S.: exhaust emissions must be tested to certify they meet standards specified by the Environmental Protection Agency; the American Society for Testing and Materials must certify the fuel for use in diesel engines; and diesel engine manufacturers must agree that use of biodiesel fuel will not void engine warranties. Coordinated efforts by industry, government, trade associations, and businesses are making rapid progress in achieving each of these objectives.

In the interim, municipal bus fleets and airport maintenance vehicles have purchased biodiesel fuel. Preliminary results from limited bus-fleet tests have prompted more extended studies of biodiesel use in some cities, including St. Louis. Gardena, California, will examine city buses for engine durability and emissions to determine if biodiesel fuels can meet California's clean air guidelines.

### Natural Fibers Aid Erosion Control

In the U.S., natural fibers—such as kenaf, jute, flax, abaca, sisal, and coir—are used in several products, including specialty papers, cordage items, and horticultural mulches and mixes. As environ-



## Commodity Spotlight

mental concerns heighten, natural fibers are finding their way into new markets, such as manufactured erosion-control and landscaping products.

Although jute, abaca, sisal, and coir are imported from tropical regions, kenaf is a new commercial crop in the U.S. Over 4,300 acres have been planted this year in the South and West for fiber, seed, and forage. The stems of kenaf consist of an outer bark of bast fibers and an inner core of shorter fibers. The bast fibers make up 30-40 percent of the dry weight of the stem, and the shorter core fibers make up the remainder.

The bast fibers are used for packing materials, burlap, and grass seeding mats, or are sold to cordage and paper manufacturers. The core material is used in nonsoil potting mixes, oil-absorbent products, and animal litter and bedding. Four companies in the U.S. currently operate fiber separation facilities.

Researchers and businesses foresee paper and paperboard as major uses for kenaf. A joint USDA-private sector demonstration project has shown that kenaf produces excellent newsprint. USDA research indicates that a blend of 25 percent kenaf pulp and 75 percent recycled newsprint yields newsprint with acceptable properties. Successful experiments have also produced bond and coated papers from kenaf. In addition, the bast fiber has potential applications that re-

quire high strength and low permeability, such as package and wrapping papers.

Kenaf and other natural fibers can also be used to make nonwoven materials, such as interior automotive paneling and landscaping mats. The technology is similar to processes for making disposable diapers and some textile products.

Erosion-control systems are a new product area for natural fibers that have the potential for fast market growth. For civil engineering and landscaping firms, the tools and materials for erosion control—such as straw, mulch, and plastic mesh—have existed for some time, but it is only in the last 8-10 years that manufactured erosion-control products have become available.

According to the Industrial Fabrics Association International (IFAI), the erosion-control market can be divided into two broad categories. First, synthetic erosion-control materials, including woven plastic fabrics and mats, are used in applications meant to last a long time, such as ditch liners and drainage systems. Second, organic erosion-control materials—including natural fiber mulches, meshes, and mats—are used to temporarily stabilize the soil and establish plant growth.

The IFAI estimates that the erosion-control market is growing 10-15 percent a year. Organic erosion-control systems use an estimated 35-40 million square yards of material annually, while synthetic systems use about 20-35 million square yards. According to the IFAI, natural fibers—such as kenaf, jute, and coir—have advantages over synthetic materials in temporary erosion control, such as lower costs, better moisture retention, and easier marketing. Also, when the natural fibers decompose, they add organic matter and nutrients to the soil.

Although accounting for a small share of total agricultural use, industrial products offer some farmers a viable marketing alternative. Environmental regulations, quality, and pricing will affect industrial demand for agricultural products in the future.

[Lewrene K. Glaser and E. Douglas Beach (202) 219-0085] 

## World Agriculture &amp; Trade

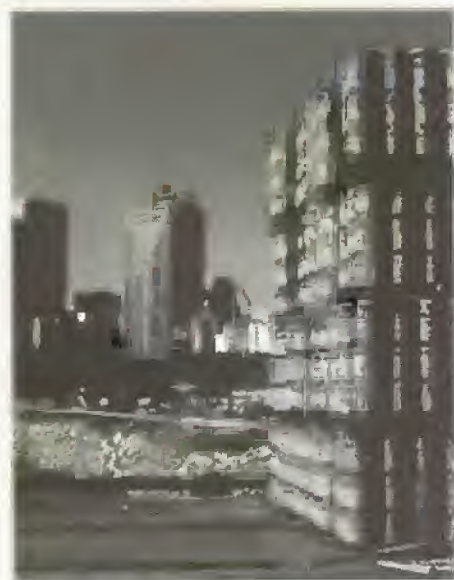


Photo courtesy of Port of New Orleans

## Global Market Prospects For Oilseeds Are Mixed

World oilseed trade could contract slightly in 1993/94, although trade in world oilseed products (meal and oil) will likely expand. Oilseed trade is projected to decline as the European Community—the world's largest soybean importer—switches from soybeans to feed grain use, and the U.S.—the largest exporter—experiences a large drop in supplies. Product trade, on the other hand, will be enhanced by large supplies of protein meals and vegetable oils in key exporting countries, and large demand by newly industrialized and developing countries.

World production of oilseeds in 1993/94 is projected to decrease for the first time in 5 years, to 226 million metric tons, due largely to an expected 3.2-percent drop in soybean output. World oilseed stocks are expected to be the lowest in 10 years. Soybeans, with flat consumption and declining production, account for nearly all the slump in stocks.

Mississippi and Texas Account for the Largest Share of Kenaf Acreage<sup>1</sup>

State	1992	1993
Acres		
Mississippi	2,800	2,000
Texas	481	1,200
California	560	560
Louisiana	300	260
New Mexico	50	205
Georgia	—	130
Other <sup>2</sup>	—	20
U.S. total	4,191	4,375

<sup>1</sup> 1992 harvested area; 1993 planted or projected area, including acreage for fiber, seed, and forage production. <sup>2</sup> Arkansas, Florida, and Hawaii.

— = Not applicable.

## World Agriculture & Trade

Production of most oilseeds other than soybeans, however, will likely increase in 1993/94. Global cottonseed production is forecast to increase 1 percent from 1992/93, to 31.9 million tons, and stocks are expected to climb 17.6 percent. Projected gains in Canadian rapeseed push world rapeseed production up about 3 percent, and favorable weather and higher prices are likely to boost global sunflowerseed production by nearly 2 million tons, to 23.4 million.

U.S. oilseed production will likely drop 10 percent from the 1992/93 record, to 61.6 million tons, due primarily to the flood-induced reduction in planted soybeans and lower yields in some producing states in the Midwest. Foreign oilseed production is projected to climb 4 percent, to 164.4 million tons, partly offsetting the U.S. drop.

Prices in the international oilseed market have risen recently, reflecting expectations of meager soybean supplies. Soybeans account for about half of world oilseed production and approximately 85 percent of world oilseed stocks, and movement in soybean prices largely determines changes in oilseed prices. Prices of other oilseeds also have strengthened recently.

### South America, India To Boost Soybean Exports...

Oilseed trade is projected to fall slightly from 1992/93 levels, while trade in protein meal is forecast to remain nearly unchanged. Soybeans, at 80 percent of oilseed exports, and soybean meal, at 67 percent of protein meal exports, are the primary determinants of oilseed trade.

Combined South American production is projected at a record 37 million tons, and aggregate soybean and soybean meal exports are forecast at 25.8 million tons, up more than 9 percent from the 1991/92 record. In Brazil, booming domestic consumption of soybean products, decreasing dependence on government loans, increasing world soybean prices, expectations of lower U.S. soybean pro-

### The U.S. Is the Largest Soybean Exporter

Commodity	1990/91	1991/92	1992/93	1993/94
<i>1,000 metric tons</i>				
<b>Soybeans</b>				
U.S.	15,159	18,623	21,090	17,554
Argentina	4,470	3,210	2,600	3,400
Brazil	2,480	3,870	4,150	5,000
China	961	870	500	800
Paraguay	1,030	830	1,300	1,300
Other	951	838	900	1,287
Total	25,051	28,241	30,540	29,341
<b>Soybean meal</b>				
U.S.	4,961	6,300	5,579	4,944
Argentina	5,580	6,190	6,500	6,550
Brazil	8,230	8,860	8,150	8,830
EC-12	3,730	4,110	4,226	3,663
China	2,250	1,400	600	800
India	1,420	1,180	1,800	2,500
Other	729	800	827	960
Total	26,900	28,830	27,682	28,247

Marketing year October/September.

duction, and a healthy economic situation for farmers will boost production to 22.6 million tons in 1993/94, and exports to 5 million tons.

In Argentina, production is forecast to reach 12 million tons in 1993/94. Farmers are expected to increase area harvested to a record 5.3 million hectares, up more than 8.2 percent, due to an improving soybean/corn price ratio, and increased use of fallow land for crops. With improved farm management and larger chemical use, yields are predicted to remain high.

In India, exports of oilseed meals have expanded nearly 600 percent since 1987/88, when exports were a mere 700,000 tons of oilseed meals. In 1993/94, oilseed meal exports are projected to reach roughly 4 million tons.

Soybean meal accounts for about 60 percent of India's total oilseed meal exports. Unlike other producers or crushers, India produces oilseeds mainly as a source of oil, with meal production a residual. Government support programs favoring oilseed production over other commodities, along with weak domestic demand for protein meals, has spawned a glut of protein meal in recent years. The excess supplies are exported primarily to the Asian market, where India is a major oilseed meal exporter.

### ... While U.S., China Exports Dwindle

With lower U.S. supplies, steady U.S. domestic use, larger foreign exports, and lower world demand, U.S. soybean and soybean meal exports are forecast to slip from 1992/93. Between 1990/91 and 1992/93, the U.S. had gained world market share in both soybean and soybean meal exports. U.S. share of soybean exports had increased from 60 percent to 69 percent, and soybean meal exports increased from 18 to 21 percent.

Volumes of oilseeds and oilseed products in this article are given in metric tons.



## World Agriculture &amp; Trade

The EC-12 Accounts for Half of Soybean and Soybean Meal Imports

Commodity	1990/91	1991/92	1992/93	1993/94
1,000 metric tons				
Soybeans				
EC-12	12,822	14,100	15,512	14,508
Japan	4,375	4,670	4,720	4,500
South Korea	929	1,330	1,100	1,200
Taiwan	2,100	2,280	2,500	2,400
Former Soviet Union	600	630	200	100
Mexico	1,376	2,150	2,300	2,400
Eastern Europe	624	614	551	383
Other	3,114	3,676	4,411	4,008
Total	25,940	29,450	31,294	29,499
Soybean meal				
EC-12	13,910	13,920	14,044	13,630
Former Soviet Union	2,590	3,000	1,050	1,450
Eastern Europe	2,310	1,820	1,625	1,345
Asia & Oceania	3,310	3,760	4,265	4,936
Middle East & N. Africa	1,910	2,290	2,340	2,443
Latin America	1,440	1,720	1,833	1,960
Other	1,820	1,760	1,672	1,593
Total	27,290	28,270	26,829	27,357

Marketing year October/September.

In 1993/94, however, the U.S. is expected to face its lowest share of soybean and soybean meal exports in history. U.S. soybean exports are projected to drop 3.5 million tons, to 17.5 million, with U.S. share declining to less than 60 percent. Soybean meal exports will drop 0.6 million tons, to 4.9 million tons, with market share falling to 18 percent.

Shipments from China, which emerged as a major exporter of soybean and soybean meal in the early 1980's, are also expected to fall in 1993/94. Exports peaked at 3.6 million tons (soybean meal equivalent) in 1987/88, claiming a 7-percent market share, and continued strong until 1991/92.

But China's growing domestic consumption will prevent a significant rebound in soybean and soybean meal exports, despite a projected large increase in production for 1993/94. Meal consumption in China in 1993/94 is expected nearly to double from 1991/92 levels. Substantial increases in the livestock sector, especially poultry and hogs, are driving growth in soybean meal consumption.

The higher demand for meat products followed market and economic reforms which have boosted urban incomes in China. Since 1991/92, China has been fading as a major supplier of soybeans and soybean meal to the Asian market.

### Oilseed Consumption To Increase Marginally

World oilseed consumption is projected up less than 1 percent to 186.5 million tons in 1993/94. Soybean and sunflowerseed account for most of the increase, while cottonseed remains flat, and rapeseed and peanuts decrease slightly. Greater soybean consumption in foreign producing regions such as Asia and Latin America are helping to more than offset lower consumption in the FSU, Eastern Europe, and the European Community (EC-12).

Despite higher oilseed prices, U.S., Asian, and Latin American demand for oilseeds and oilseed products, especially soybean products, are expected to increase or remain unchanged. Projected

growth in poultry, pork, and cattle production—primarily in China, Mexico, Brazil, and the U.S.—will spur feed meal demand. In addition, some gains in oilseed consumption will also be driven by greater need for oils, especially in developing countries.

Oilseed demand in the EC is projected down 5 percent in 1993/94 from the previous year. Lower soybean and soybean meal demand in the EC, which consumes more than 28 percent of world soybean meal, and about half of world soybean and soybean meal imports, accounts for most of the drop in oilseed demand. Reforms to the EC's Common Agricultural Policy (CAP), as well as higher world oilseed prices, are expected to raise the price ratio of protein meals to grains, reducing the competitiveness of protein meals in the EC market. Soybean meal consumption in the EC will likely fall for the first time in 5 years.

Although a drop in EC protein meal consumption appears fairly certain, the volume of decline is still uncertain. Until 1991/92, the EC used more protein meal in its feed rations than any other industrialized country, due to high internal grain prices and relatively low world protein meal prices. The new policy, which lowers grain intervention prices, and the recent rally in oilseed prices, will cause farmers and feed companies to adjust their feed rations towards more grain and less protein meal.

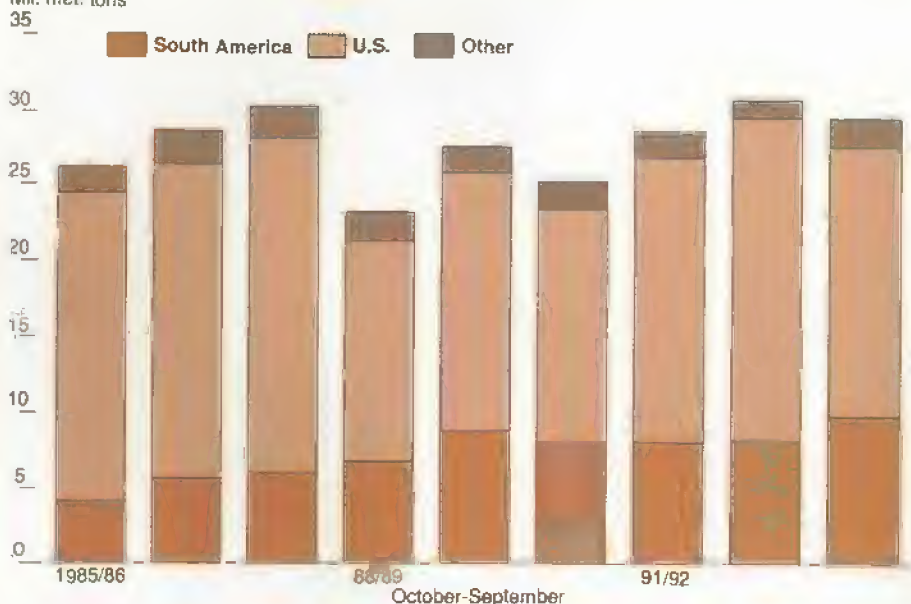
The likely amount of the adjustment is unclear, and will vary widely from farmers to feed compounders, and from country to country within the EC. Moreover, total EC decline in protein meal consumption for 1993/94 will depend not only on price ratios, but also on nutritional requirements and the time needed to adapt to new supplies and prices.

Although the price ratio between soybeans and soybean meal is expected to remain nearly unchanged from 1992/93, EC soybean imports are currently projected to decline more than soybean meal imports. Ultimately, changes in EC crush margins, EC oilseed supplies, oilseed prices, and availability of vegetable oils, will determine the amounts of soybeans and soybean meal imported.

## World Agriculture & Trade

### South American Countries Gain World Soybean Export Share.

Mil. met. tons



1992/93 estimate 1993/94 forecast.

Significant variations in current and projected levels in these elements could alter early estimates, resulting in adjustments of USDA 1993/94 forecasts.

In Eastern Europe, protein meal consumption has been declining since 1986. Economic reforms and the sluggish shift toward a market economy reduced meat consumption and livestock herds, and led to the fall in protein meal consumption.

Many obstacles impede a quick recovery in Eastern Europe's agriculture sector. The marketing and distribution system for inputs and commodities continues to be slow. Input prices, especially for fertilizers, are high compared with commodity prices. And hard currency deficits restrain growth in imports. Although protein meal consumption in Eastern Europe is expected to decline in 1993/94 to its lowest level since 1971, further drops from the extremely low current levels are not foreseen in the near future. Furthermore, an improved macroeconomic forecast, with substantial income growth,

will likely lead to increased meat consumption, a larger livestock sector, and greater feed use, especially protein meal.

The FSU is projected to increase protein meal consumption 38 percent in 1993/94 over the previous year, assuming the 1992/93 level of foreign aid is maintained, foreign currency reserves are available, and prospective debt payments by India to the FSU are realized. However, 1993/94 consumption would still be nearly 50 percent less than 2 years before. Higher domestic prices, reduced government subsidies, and falling consumer incomes continue to restrain meat consumption, leading to smaller livestock herds and limiting growth in feed consumption.

The larger domestic grain harvest anticipated this year could also reduce the need for protein meal, especially soybean meal. Finally, the anticipated U.S. food aid package to Russia, agreed to in 1993, will likely not be available until the 1993/94 marketing year.

### Veg-oil Consumption Remains Brisk

World vegetable oil consumption is projected to grow 1 percent and reach another record in 1993/94. Substantial economic growth in developing countries, especially in Latin America and the Middle East, will lead to increasing world vegetable oil consumption. Oil demand will also remain strong in Asian countries, with consumption expected to reach high 1992/93 levels.

World vegetable oil production will likely rise more than 3 percent, with increases in most oils, especially palm oil and sunflower oil. Despite greater production growth, vegetable oil stocks are forecast to be the lowest in nearly 10 years.

World exports of vegetable oils in 1993/94 are forecast up 4 percent from 1992/93. Palm oil exports are expected to rise by 600,000 tons, and account for most of the gain. Trade quantities in vegetable oils often depend on production levels in importing countries. Since many of the major importing countries are also producers, growth in world oil demand depends on oilseed output from importing countries such as the FSU, Pakistan, India, and the EC.

U.S. vegetable oil exports are expected to hold constant at the 1992/93 level. U.S. export assistance programs for vegetable oils—the Export Enhancement Program, the Sunflower Oil Assistance Program, and the Cottonseed Oil Assistance Program—are projected to be maintained at 1992/93 levels.

[Jaime Castaneda (202) 219-0826] **AO**



## Farm Finance



## Net Cash Income Up In 1993

**R**egional farm income levels will vary widely this year. Floods in the Midwest and drought in the East have lowered crop production forecasts. However, Midwest net cash income will likely rise in calendar 1993 because of sales from storage of 1992 crops and government disaster payments. Low dairy prices are expected to reduce net cash income in the Northeast in calendar 1993.

U.S. net cash income is forecast up 8-12 percent this year, with both livestock and crop receipts expected higher. Record production reduced prices somewhat for 1992/93 program crops and increased deficiency payments this year. Adding in expected disaster payments for flood and drought losses brings total calendar 1993 government payments to between \$11 and \$15 billion, the highest since 1988. Weather-induced higher prices for some crops are also a factor in this year's farm income forecast.

Nationally, farm expenses are forecast up a modest 1 or 2 percent for 1993. Feed expenses are essentially unchanged from last year. Although flood and drought

have raised feed prices, feed purchases will be affected mostly in the last few months of the year. Feed prices were down for the first half of the year, offsetting the current high prices, which will carry over into next year when livestock producers will feel more impact.

### Large Carryin Stocks Soften Crop Losses

Field crop sales throughout the first three quarters of this calendar year were drawn primarily from storage supplies of last year's record crop. Typically, almost two-thirds of the soybean crop and over half of the corn crop is sold in the year after harvest. For 1993, any reduction in cash incomes due to flood or drought is offset by sales of last year's record crop, despite lower prices earlier in the year. For 1994, however, it means less carryover from this year, affecting 1994 net incomes.

Net cash income measures total income received in a year regardless of when the marketed output was produced. Net farm income measures the value of net income from the current year's production. Because net farm income adjusts for carryin and carryover stocks, inventories have a

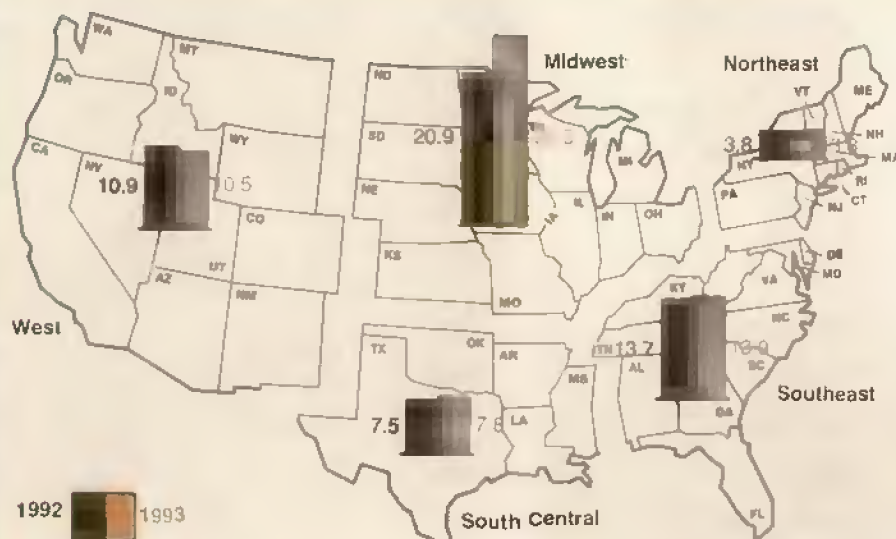
major impact on computing net farm income. For 1993, the value of the inventory adjustment is minus \$1-\$5 billion, mainly reflecting last year's production sold this year but not replaced due to flood and drought.

With this subtraction from gross cash income, gross farm income for 1993 rises less than 1 percent from last year. Adding noncash expenses, such as depreciation, to the expense accounts offsets this slight gross income increase, reducing net farm income 2-3 percent in 1993. This is the net farm income from 1993 production. If a producer had 1992 crops in storage, sales at current prices could mean positive net cash income for the year. If there were few or no sales in 1993 from last year's crops, the farmer could realize a loss.

### Cash Receipts Forecast Up

Crop cash receipts are forecast up 1 to 2 percent nationally, with soybeans rising the most, 10-14 percent. Receipts for other field crops are forecast down, but vegetable and greenhouse/nursery receipts may rise. The expected increase in greenhouse/nursery receipts continues a

Despite Drought and Floods, Most Regions Report Higher Net Cash Income



\$ billion

## Farm Finance

long-term rise for specialty commodity components of the farm economy.

Livestock receipts are also forecast up for 1993. Hog and cattle prices have been strong. Production of hogs and cattle is still increasing, and higher prices in the first half of the year are offsetting the lower prices of the second half, leading to a 3-5-percent rise in red meat cash receipts.

Poultry and egg receipts are expected to increase an average 6-7 percent. The poultry subsector, much like specialty crops, has been a source of growth in cash receipts for several years. Dairy receipts will likely fall 3-5 percent.

### Midwest Incomes Expected To Rise

Despite crop losses from flooding, calendar 1993 net cash incomes will likely rise in the Midwest, perhaps dramatically, for several reasons. First, the region is large geographically, with most of the acreage unaffected by flooding. Corn and soybean crops in the eastern Corn Belt will be very good by historical standards.

Second, fourth-quarter corn prices are forecast up nearly 15 percent from last year and soybean prices are up nearly 25 percent. Farmers with crops to sell will

realize higher prices. Third, sales for the first half of this year came from last year's record production, and this year's reduced crop will mainly affect next year's sales. Many farmers near the flooding rivers will have no production this year and will have to rely on grain stored in previous years for sales and feed. Net cash income in 1994, when most of this year's crop would normally be sold, will be affected.

Anticipated Midwest disaster payments of over \$2 billion could increase the region's net cash income by over 25 percent. These government payments, added to regular deficiency and conservation payments, have been approved and should be disbursed quickly as farmers file damage claims. However, many of those producers flooded out will see lower, possibly negative, net farm incomes, as carryin inventories are removed from this year's sales.

### Outlook Varies In Other Regions

The Southeast region is less dependent than the Midwest on corn and soybeans for earnings. Drought has cut production of these crops, particularly in the Carolinas. However, other commodities, such as tobacco and broilers, are much stronger factors in the region's receipts.

Tobacco production is forecast down because of the drought, and prices are only slightly higher. Cotton receipts are down as prices continue dropping. Total Southeast crop receipts are forecast down 1-2 percent this year.

Meanwhile, livestock receipts are expected to rise 2-4 percent. Aside from stronger cattle and hog prices, broilers are enjoying an exceptional year. At the U.S. level, broiler receipts are forecast up nearly 10 percent, and the Southeast, the major broiler region, will reflect the national picture.

Higher disaster payments will help push up government payments in the Southeast by nearly 50 percent. The region's expenses are forecast to follow the U.S. rise of 1-2 percent. The combined changes in receipts, payments, and expenses will raise net cash income 1-2 percent from last year.

In other parts of the country, disaster payments are only a small fraction of gross income, and commodity mix is playing a larger role. For example, the combination of lower production and prices is reducing 1993 rice receipts and overall farm receipts in the South Central region and the West. Higher beef prices are pushing up South Central livestock receipts, but lower milk prices are hurting the performance of the large dairy subsector in the West.

### Higher Crop Prices and Larger Government Payments Raise Net Cash Income

Sales, income, expense category	1992	1993
\$ billion		
Cash receipts:		
Crops	84.8	83-88
Livestock	86.4	86-90
Total	171.2	170-177
Other farm-related income	7.6	6-8
Direct government payments	9.2	11-15
Gross cash income	187.9	190-198
Cash expenses	130.2	126-134
Net cash income	57.7	58-67

1992 preliminary, 1993 forecast.

### Weather's Impact on Farm Household Income

The July AO began reporting average incomes of farm operator households (Appendix table 30). At that time, 1991 data were the most current. Since then, 1992 data have become available and 1991 data revised.

Recently released 1992 data show average farm operator household income of \$40,000. Farm-related income in farm operator households accounts for \$4,300, with the remaining \$35,700 coming from off-farm jobs.



While many farm operator households now rely on off-farm sources for most of their income, this year's adverse weather will have an impact on many operator households in disaster counties for several reasons. First, farm households in the Midwestern disaster counties normally rely more heavily on farm income than the average U.S. farm household. Farm-related income made up 26 percent of operator household income in the Midwestern disaster counties, compared with

12 percent for both the nation as a whole and the Southeastern disaster counties.

Second, the adverse weather may also affect off-farm jobs held by members of operator households. For example, floods close down area businesses where members of operator households are employed. And nonfarm businesses that process agricultural products or supply inputs to farms will be affected by the weather's adverse impact on farming.

Finally, in both the Midwest and the Southeast, some households depend more heavily on farming than others and will be more affected by the weather. In the two areas, households operating commercial farms depend more heavily on farm income than households operating smaller farms. In Midwestern disaster counties, households operating dairy farms depend more on farm income than households with other types of farms. [Bob McElroy (202) 219-0800] AO



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## Special Articles



American Meat Institute

## Issues in Pork Safety: Costs, Controls, & Incentives

**F**oodborne disease from *Salmonella*, *Escherichia coli*, and other microbiological pathogens—found primarily on meat and other animal products—place a large burden on society. In the first of three articles on foodborne pathogens and meat, AO examined the medical costs and productivity losses from foodborne disease, along with plans to modernize meat inspection. The second article focused on poultry—the major food associated with *Salmonella* and *Campylobacter*—and on the success of industry control methods. In this concluding segment, AO focuses on the costs of foodborne diseases associated with pork, the third most popular meat in the U.S. (after beef and chicken), and discusses how developments in control and testing measures can help reduce these costs.

### Assessing the Costs

Government and industry accelerated foodborne disease research and prevention activities after a serious outbreak of illness linked to hamburgers containing *E. coli* O157:H7 earlier this year. Safe handling labels are scheduled to appear on fresh, uncooked meat and poultry products later this month. While *Salmonella* and other bacteria are the pathogens most frequently reported to the Centers for Disease Control and Preven-

tion (CDC), most cases of foodborne disease are unrecognized and unreported because the symptoms occur with a lag and are easily confused with other illnesses.

Recent research from USDA's Economic Research Service suggests that the foodborne disease associated with the parasite *Toxoplasma gondii* may have even higher medical costs and productivity losses than with *Salmonella* and *Campylobacter*, the most prevalent bacteria associated with foodborne disease.

Cats are the major nonfoodborne source of human illness associated with *T. gondii* in the U.S., through exposure to their fecal material. Foodborne illnesses associated with *T. gondii* are not required to be reported to the CDC, but the best estimate of epidemiologists is that about half the illnesses associated with *T. gondii* are linked to food consumption.

Medical research has linked foodborne illness from *T. gondii* to consumption of raw goat's milk, raw or undercooked pork, lamb, beef, venison, and other sources. Pork is believed to be the primary source of foodborne toxoplasmosis in the U.S. because of its prevalence in the American diet, and because animal studies indicate much higher rates of disease transmission from infected pork than from other infected meats. However, the exact percentage of cases due to pork consumption is uncertain.

CDC epidemiologists estimate that over 2,000 babies a year are born in the U.S. with foodborne congenital toxoplasmosis, currently the most costly disease caused by *T. gondii*. A pregnant woman can become infected by consuming raw or undercooked pork, and pass the infection on to her fetus, causing infection and possibly mild to severe mental retardation, deafness, or blindness. Pregnant women themselves show only mild signs of the disease because their immune systems typically are successful in fighting off the infection.

High costs are associated with congenital toxoplasmosis cases because of the severity of the disease and because babies have a potential lifetime of lost earnings or institutional care. Safe cooking and handling labels on meat may help reduce the number of foodborne illnesses, because cooking pork until it is no longer pink kills *T. gondii* cysts. Advancements in the epidemiology of foodborne disease, studies of the effects of farm management on pathogens, producer price incentives to reduce pathogens, and new, faster tests for pathogens may also play a role in increasing the safety of pork.

Three types of costs are estimated for cases of congenital toxoplasmosis: medical costs, income losses, and special education or residential care required for a handicap resulting from the disease. These costs are estimated to total \$5.2 billion a year. About half—\$2.6 billion a year—is thought to be associated with handling or consuming raw or undercooked pork.

With congenital toxoplasmosis, a few newborns die during the initial infection. About one-third of those infected are left severely retarded and unable to lead a full and productive life. An



estimated 17 percent are left moderately retarded and unlikely to work at normal jobs. Thirty-three percent are blind, hearing-impaired, or slightly retarded. An estimated 15 percent recover fully with no chronic complications and live normal lives.

Lost productivity, the most significant cost component from congenital toxoplasmosis, is estimated at \$1.4 billion annually. Special education and residential care for infected persons who are severely or moderately retarded are estimated at \$1.2 billion annually. Medical costs comprise a very small part of the estimated preventable losses.

In addition to causing congenital toxoplasmosis, *T. gondii* can also cause mild to severe infections in adults. Most adult infections are mild enough to escape notice by healthy persons. But toxoplasmic encephalitis can occur if an individual's immune system is already weakened. AIDS and the side effects of certain cancer treatments weaken an individual's immune system, and old infections in muscles can become reactivated and cause serious complications or death. Toxoplasmic encephalitis, marked by dementia and seizures, has become the most commonly recognized cause of central nervous system opportunistic infection in AIDS patients, according to recent medical research.

#### Productivity Loss Is Largest Cost Associated with Foodborne Congenital Toxoplasmosis

Cost category	Cases	Economic costs
	Number	\$ million
Medical costs		
Hospitalization for newborn illness	272	14.5
Diagnostic tests for newborns	2,090	6.7
Testing and treatment for visually impaired	1,174	1.4
Subtotal		22.6
Special education and residential care		
Severe retardation	690	1,063.5
Moderate retardation	355	44.5
Slight retardation	481	33.5
Blindness	167	48.0
Hearing impairment	42	8.5
Subtotal		1,188.0
Productivity losses		
Death of newborn	42	<sup>1</sup> 18.2
Severe retardation	690	748.0
Moderate retardation	355	358.4
Slight retardation	481	140.8
Blindness	167	127.0
Hearing impairment	42	25.4
Full recovery	313	0.0
Subtotal		1,417.5
Total	<sup>2</sup> 2,090	2,628.1

<sup>1</sup>1992 data.

<sup>2</sup> Assumes 60 percent of mothers will have another child to replace the deceased. <sup>3</sup> An equal number of cases is estimated to be transmitted by cats.

While the medical costs and productivity losses associated with toxoplasmic encephalitis are currently estimated to be under \$1 million, the number of these cases is growing. Eliminating foodborne sources today will not eliminate all or even most cases of toxoplasmic encephalitis in AIDS patients, because these are generally reactivations of old infections.

The medical costs and productivity losses from trichinellosis and pork tapeworm, other foodborne diseases associated with pork, are estimated to be under \$1 million. The medical costs and productivity losses from cryptosporidiosis, salmonellosis, and other foodborne diseases that are sometimes associated with pork have not been estimated.

### Developing Control Measures For Each Link in the Chain

**Farm Management Strategies.** Farm-level controls are particularly useful in reducing foodborne illness from pork parasites—the major pork pathogens—since parasites originate on the farm and, unlike many bacteria, do not multiply in food. One parasite-caused illness, for example—trichinellosis—has been largely eliminated from hogs. This was accomplished by three farm management techniques—placing hogs in enclosed houses and/or on paved lots to control rodents, promptly removing dead hogs from pens, and cooking any garbage used for feed to a temperature high enough to kill parasitic cysts.

Potential sources of transmission of pathogens to hogs include feed, water, pets (especially cats), wildlife, and humans, as well as other hogs. Any of these sources could have access to hog production and feed handling facilities. Researchers are working toward a better understanding of the complex interactions among production methods and pathogen levels, and are studying ways of economically managing the broad array of hazards.

Cats are used for rodent control on a majority of hog farms, according to the National Swine Survey. However, hogs have been infected with the parasite *Toxoplasma gondii* by contact with cat feces. Cats have access to about half of farrowing and nursery facilities, about three-fifths of grower/finisher and feed storage facilities, and about three-fourths of breeding and gestation facilities, according to the survey. Limiting access of cats to hog facilities may be useful in reducing disease transmission from cats to swine.

Birds and wildlife can also contaminate hogs with a variety of pathogens. Birds, chiefly starlings and pigeons, have access to the interiors of nearly 90 percent of the breeding and gestation facilities, about three-fifths of the grower/finisher and feed storage facilities, and over a third of the farrowing and nursery facilities. Rodents, the survey reported, were sighted at least once a week in two-fifths of the farrowing, nursery, and grower/finisher facilities, and in about one-third of the breeding and gestation facilities. The survey also indicated that deer were sighted at least four times a month, within a mile of monitored farms, by nearly two-fifths of respondents.

## Special Articles

### Types of Pork Pathogens

Parasites and bacteria can infect hogs and cause human disease through consumption of pork and pork products. Most of these pathogens can be eliminated by cooking pork until well done, the typical practice in the U.S.

**Trichinellosis.** The best known pork-related disease is caused by a hog parasite, *Trichinella spiralis*, which causes trichinellosis in humans. The number of human cases of trichinellosis reported to CDC has declined dramatically since the turn of the century. The few cases that are reported to CDC are increasingly caused by wild game.

**Toxoplasmosis.** The parasite estimated to cause the greatest human-disease costs is *Toxoplasma gondii*. The infection rate of hogs with *T. gondii* is much higher than for other food animals, although current testing procedures may not be sensitive enough for other animals. CDC does not require reporting of foodborne *T. gondii* cases.

**Cryptosporidiosis.** Another potential foodborne parasitic disease is caused by *Cryptosporidium parvum*. Many human cases are mild, but the infection causes severe diarrhea, malabsorption, and weight loss in about 5 percent of patients with AIDS in the U.S. One study found that 5 percent of market hogs tested positive for *Cryptosporidium* cysts. CDC does not require reporting of foodborne *Cryptosporidium* cases.

**Bacterial diseases.** CDC outbreak data have identified pork as the vehicle in 2.8 percent of foodborne salmonellosis cases, but the percentage associated with other bacterial pathogens is unknown. Researchers at Iowa State University, in a study of the prevalence of pathogenic bacteria on pork carcasses at three packing plants, found *Salmonella* on 4.4-15.5 percent of carcasses, *Staphylococcus aureus* on 4.4-26.7 percent, *Listeria monocytogenes* on 1.5-13.3 percent, *Yersinia enterocolitica* on 0.4-13.3 percent, and *Clostridium perfringens* on 0.4-2.2 percent.

Hog producers are increasingly aware of how herds can become contaminated by humans. Producers might require visitors to shower, change coveralls and/or boots, or bathe feet before entering a swine facility. However, the proportion requiring any of those precautions is less than 10 percent. Over 40 percent of the producers required that visitors not be on another hog farm earlier that day.

**Tracking of diseased animals.** Monitoring changes in the pathogen levels of diseased animals from changes in farm production requires the ability to trace the animals from the slaughter plant back to the farm. Pork producers report that they now

have such a system and are willing to implement it as widely as possible. Hogs are increasingly marketed from the farm directly to the packer, which eases tracking. In the past, most hogs passed through one or more marketing facilities, such as terminals and auctions, where hogs from several producers were commingled in pens, thereby losing the ability to identify producers.

An increasing number of producers sell their hogs on a "grade-and-yield" basis—in which the producer is compensated according to objective characteristics of the dressed carcass—and many industry observers predict that most hogs will be sold on this basis within a few years. Because grade-and-yield sales require tracking of who produced which animal, in order to make payments, disease tracking is also possible.

Improved traceback programs benefit consumers both directly and indirectly. During specific outbreaks of foodborne disease, the ability to locate the source of the problem quickly can help head off additional cases. In the longer term, producers' knowledge that any problem might be traceable to their operation serves as an incentive to follow effective disease-prevention procedures.

**Slaughter plants.** Several new technologies, including organic acid washes and nontraditional inspection methods, are being tested for effectiveness in reducing pathogen levels, especially bacteria, on hogs in the slaughter plant.

Also, USDA's Food Safety and Inspection Service (FSIS) began implementing a nationwide monitoring program last October aimed at establishing the baseline microbiological condition of beef carcasses entering the American meat production chain. These baselines will be useful in determining the prevalence of pathogens on carcasses, and will allow control measures to become more focused. The extension of the baseline testing program to poultry and hogs is now being drafted, and the shakedown phase is expected to begin in the last quarter of 1993.

**Processing plants.** Irradiation at low-to-moderate levels is effective in reducing the foodborne disease threat of most parasites and bacteria. While relatively high irradiation doses are required to kill many parasites, most can be effectively controlled at lower doses. Recent work on *Trichinella*, for example, shows that a relatively small dose is sufficient to prevent ingested larvae from reproducing in the human intestine and causing illness. Researchers are developing animal models for other parasitic diseases to determine the minimum doses needed to prevent human infection.

In 1985, FDA and FSIS approved irradiation of pork at low doses (30-100 krad) to destroy *Trichinella* larvae in raw pork. For processed pork products, such as luncheon meats and hams, traditional trichinae destruction methods (cooking, freezing, or curing) are effective. Thus irradiation would only be advantageous to reduce trichinae in raw pork sausage, pork chops, and other raw pork cuts sold in supermarkets. Slightly higher doses



## The Advent of the "Rapid Test"

The traditional laboratory test for animal pathogens, the reference standard of scientific technique, is the "culture test." Its application for detecting *Salmonella* would proceed as follows. If the food is a processed food product, which may have been frozen or heat-treated (for example, pasteurized), the *Salmonella* organisms may be injured. The sample is, therefore, placed in a pre-enrichment medium designed to repair damaged *Salmonella* cells and increase their number while limiting the growth of other organisms. This step may take 24-48 hours.

For another 24 hours, the sample is kept in a selective enrichment medium designed to inhibit other organisms and select for *Salmonella*. The next step is the streaking of the culture onto agar plates. These plates are constructed so that, by repeated reproduction over the next 24-hour period, a single organism produces a visible colony. The colonies are then analyzed biologically and serologically to identify beyond a doubt that the isolated organism is a *Salmonella*.

Time-consuming as they are, culture tests are considered necessary to provide a definitive identification of a suspected pathogen. Other tests may generate false positives—indications that a pathogen is present when, in fact, it is not. Such misidentifications can be expensive for producers, since any presumptively positive test result for pathogens requires the affected product to be held until found safe, redirected to alternative (perhaps less profitable) uses, or destroyed. Culture tests give few, if any, false positives.

Enrichment procedures are necessary and can take 24-48 hours of incubation. However, new tests called "rapid tests" accomplish the post-enrichment portion of the culture test more quickly. Though rapid tests often produce some false positives, they are essentially free of false negatives. Thus, they are useful for screening and permit a large proportion of tested product—say, 97 or 98 percent—receiving a negative test result to be freed for shipment. Only the product testing positive need be held pending the definitive results of a culture test.

Two prominent types of rapid test are those based on polymerase chain reactions ("PCR" tests) and those involving immuno-capture techniques. PCR tests use DNA probes, tools of recombinant gene technology. In this method, a sample's DNA is first separated into single strands. DNA probes are then introduced; these consist of DNA fragments that are specific to the pathogen being pursued and have been "tagged" (such as by radioactivity) to allow their later identification. Like two pieces of a puzzle that are meant for each other, single strands of the pathogen's DNA and DNA probe strands pair up with one another, forming a hybrid DNA sample that is later detected and counted.

In one version of the immuno-capture technique, an antibody that is specific to an antigen from the pathogen is placed on magnetic beads. When the beads are placed in an enrichment medium containing the sample, the antibody binds to the pathogen's cells, causing these cells, in turn, to stick to the beads. A magnet is then used to remove the beads.

The economic advantage of rapid tests rests on the time they save in establishing a large proportion of product as "negative" for tested pathogens with essentially no false negatives. While they do not generally eliminate the need for enrichment in the first stage of testing, they do shorten the total time during which product with negative test results must be held before being shipped. This saves producers inventory carrying costs and furnishes consumers with fresher product.

In some cases, rapid tests are able to provide partial results with very little enrichment required, allowing almost immediate shipment of some product. FDA exploits this ability of some rapid tests in its testing of imported food, whose holding for prolonged testing can be problematical because of limited dock space.

Despite their name, rapid tests do not remove the need for days of testing in many cases. Samples still require enrichment. In addition, the product that rapid tests determine to be "positive," even if this determination is incorrect, must be subjected to a traditional, time-consuming, culture test.

of 75-100 krad are required to inactivate *T. gondii*, and moderate doses of 150-300 krad are required to kill *Salmonella*. Neither dosage application has yet received regulatory approval for pork.

**Food handling label for consumers.** A smaller proportion of people have knowledge of safe cooking, storage, and handling practices than in the past, and studies indicate that unsafe cooking, storage, and handling of food, especially improper cooling of cooked foods, is frequently the cause of foodborne illness outbreaks. Poor worker sanitation practices also contribute to the occurrence of foodborne illnesses.

FSIS is currently amending Federal meat and poultry products inspection regulations to make safe handling instructions mandatory on all raw meat and poultry product labeling. The handling instructions address safe storage of raw product, prevention of cross-contamination, proper cooking of raw product, and handling of leftovers.

The effective date of the interim rule is October 15, 1993. The rule provides considerable flexibility for communicating safe handling instructions, and the estimated incremental increase in the cost of labeling fresh product was only \$0.0025 to \$0.005 per label.

## Special Articles

### *Producer Incentives Could Spur More Controls*

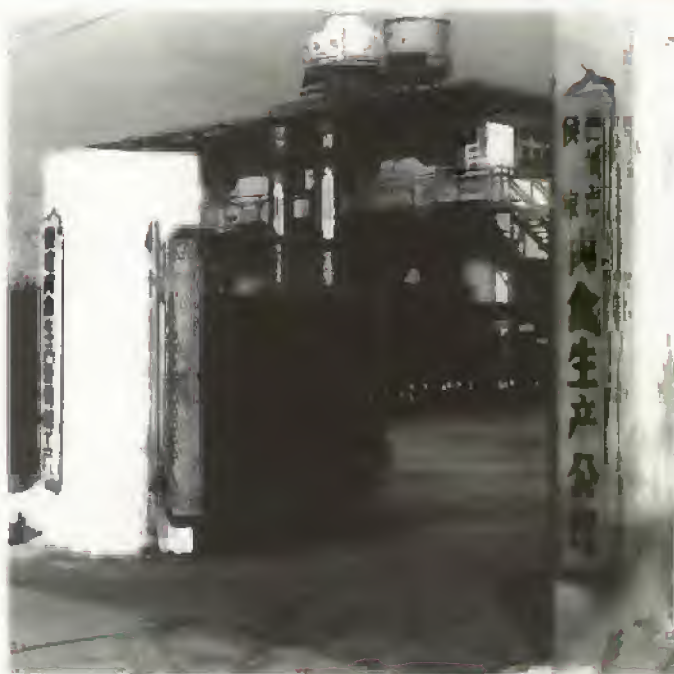
Irradiation, organic sprays, food handling labels, and other controls at the processing and consumer level must be used in concert with more controls at the farm level in order to be most successful. An improved set of rewards and penalties would encourage hog and pork producers to adopt production practices that minimize microbial contaminants.

The National Pork Producers Council has developed a program to reward producers who adhere to strict guidelines concerning the use of medicines, and a similar program could be developed for producing low-pathogen or pathogen-free hogs. Farmers in the medicine program keep accurate records of drug use and withdrawal dates, and update management practices to minimize the use of medicines. One packer pays program-certified producers at the highest level of the program—a \$1-per-hundredweight premium for each carcass.

An option for producers in the future may be the use of labels on pork products to inform consumers of a specific treatment that had reduced the likelihood of pathogens. For example, the label might read "Irradiated to reduce pathogens." The widespread adoption of such labels for animal food products would, like improvements in traceback capabilities, benefit consumers both directly and indirectly. The indirect benefit stems from the incentive effect of the labels: producers who qualify for use of the labels could have a competitive advantage in marketing their products and/or could garner a premium price. The existence of a labeling program for tested food should promote the safe practices the labels are intended to recognize.

A labeling program of this sort would succeed only if, in the view of consumers, the process of product certification was objective and credible. One independent organization, AOAC International (formerly known as the Association of Official Analytical Chemists), is engaged in an effort that could provide scientific standards for a part of the certification process. This organization has undertaken a program to evaluate foodborne pathogen test kits, such as for detection of *Salmonella* or *Listeria*. AOAC International is seeking eventual recognition of its foodborne pathogen program from FSIS.

Finally, scientific testing of animals at the farm and testing of animal products in slaughterhouses, processing facilities, during transport, and in retail stores can help detect the presence of pathogens in the food chain and can serve as a method of judging the effectiveness of pathogen-reduction methods. Testing provides important feedback on how new industry and regulatory programs perform, and is the purpose of the FSIS microbiological baseline program of pathogen testing for various food animals. The development of new, faster tests for foodborne pathogens—"rapid tests"—could help streamline this evaluation. [Tanya Roberts and Mike Weiss (202) 219-8868; Leland Southard (202) 219-0767] **AO**



### Rural Development In China: Pace Varies by Region

China's rural development has progressed rapidly since the late 1970's when reforms and a more open trade policy were introduced. The total value of goods produced in rural areas grew markedly and per capita rural incomes rose significantly. However, development has been uneven across regions. The coastal provinces, which are closer to foreign and overseas Chinese investors and have a better infrastructure, generally have achieved faster economic growth than the inland provinces.

A comparison of rural economic development between China's two regions indicates the gap has widened after more than a decade of reform. Vigorous public, private, and foreign investment in infrastructure in China's central and western areas could prevent inland rural development from falling further behind development in coastal areas.

### *Reforms Trigger Rural Economic Growth*

China's rural development goals, like those in many other developing countries, are numerous and diverse. The most important are raising standards of living and improving national economic



growth. Other goals include alleviating pockets of persistent poverty and preserving the rural character of some areas. As part of an effort to achieve these goals, China has put farm residents to work in village and township enterprises.

Since reforms were implemented in 1979, China has achieved significant rural economic development. The gross value of rural social output grew 9.3 percent annually in real terms between 1978 and 1991. Rural social output is a Marxian concept which includes the combined "material" output of agriculture, industry, construction, commerce, and transportation but excludes "nonmaterial" contributions such as services.

Meanwhile, the gross value of agricultural output rose at a real rate of 5.6 percent annually. Rapid economic growth, coupled with relatively low population growth, has substantially boosted average per capita household incomes of rural peasants.

These accomplishments have stemmed from a series of rural reforms, including:

- increasing government procurement prices for crops and livestock products;
- dismantling the commune system, implementing the rural household production responsibility system, and initiating a land contract system;
- reopening rural markets to trade and creating wholesale and futures markets (mainly spot and forward contract markets);
- expanding industry into rural areas; and
- enhancing rural financial and credit services.

However, economic growth and rural development have varied significantly among China's provinces, and this uneven growth has become more pronounced during the last few years. A continuation of this trend could cause social or political unrest, a concern expressed by many governors from inland provinces during the Eighth National People's Congress held in Beijing in April 1993.

## ***Coastal & Inland Regions Have Unique Characteristics***

China is divided into two distinct regions: Coastal and Inland. The Coastal Region includes 11 provinces or municipalities. The Inland Region consists of two parts—central and western—containing 14 and 5 provinces (or autonomous regions), respectively.

The Coastal Region, with its rich river valleys, has the greatest population density and contains a disproportionately large share of China's cultivated area, 29.4 percent. The western part of the Inland Region, with high plateaus and vast deserts, is China's least populated area and contains only 8-9 percent of cultivated land. The central part of the Inland Region is a highly concentrated grain and cotton producing area containing 58 percent of China's population and accounting for over 60 percent of its cultivated area.

Since reforms began in 1979, a large portion of China's rural investment has been aimed at expanding rural industrial enterprises, mainly through loans granted by the Agricultural Bank of China. The bank increased rural enterprise development loans from 2.6 billion yuan in 1980 to 26.1 billion in 1990. The bank favored rural enterprise loans along coastal areas over agricultural production loans because they generated higher returns.

The Coastal Region, with 38 percent of China's population and a little over 11 percent of the area, annually received 50 percent or more of the loans for industrial development of rural villages and townships during the 1980's. Rural industries in the coastal areas generated more hard currency and higher returns than similar industries in the Inland Region due to easier access to foreign markets.

In 1990, the Coastal Region accounted for 56.5 percent of the bank's share of lending for rural enterprises, the central portion of the Inland Region accounted for 41.1 percent, and the western portion 2.1 percent.

**The Inland Region Contains Over 60 Percent of China's Population**

Region	Total land area		Cultivated area		Population	
	Million ha	Percent	Million ha	Percent	Million	Percent
Coastal	107.4	11	28.1	29	425.8	38
Inland						
Central	550.1	58	59.4	62	655.8	58
Western	296.0	31	8.1	9	48.8	4
Total	953.4	100	95.7	100	1,130.5	100

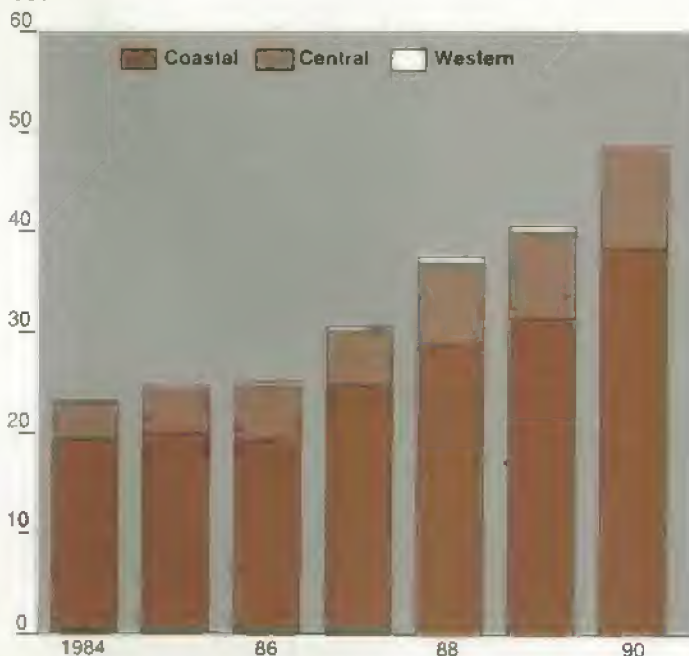
## Special Articles

### The Coastal Region Accounts for Less Than 12 Percent Of China's Land Area . . .



### . . . but Over Three-quarters of Its Exports

US\$ million



Regional exports do not include the small amount of shipments from other sources

Per capita rural labor productivity, measured by both value of output and grain production per worker, has become more differentiated between the Coastal and Inland Regions during the more than 10 years of reform. Per capita rural social output is

used to illustrate overall rural labor productivity. Per capita rural social output for the Coastal Region rose 300 percent from 1983 to 1990, while per capita rural social output for the central and western Inland Region rose 170 and 190 percent.

Similarly, gaps between the two regions have widened for total agricultural output per laborer as well as grain output per worker. These varying growth rates indicate that the gap in rural labor productivity between the two has widened.

### Investment & Infrastructure Favored Coastal Areas

Since the early 1980's, foreign investment has been critical to China's urban and rural economic development. Foreign investment in rural industries, largely in coastal provinces, has provided off-farm job opportunities and contributed to increased rural household income. It has facilitated transfers of rural workers out of agricultural production and into industrial activities. In many cases, rural laborers migrated from inland provinces, such as Sichuan, Hunan, and Shaanxi, to work in Guangdong Province and in the municipalities of Beijing and Shanghai.

Not only did foreign investment grow rapidly in the Coastal Region, but the region's share of total foreign investment in China rose from 23 percent in 1983, the earliest year for which statistics are available, to 50 percent in 1991.

Foreign investment in the Inland Region also increased sharply, with the region's share rising from 1 percent of China's total in 1983 to 7 percent in 1991. (From 1983 to 1991, investment at the Ministry, or national level, dropped from 76 percent to 42 percent of total foreign investment.) Although foreign investment has begun to extend into remote areas, such as the Xinjiang Autonomous Region, the western part of the Inland Region still accounted for only about 1 percent of total foreign investment in 1991 after more than a decade of economic development.

Another important factor in rural development is the availability of an adequate infrastructure. Because of limited data, only a few indicators, including length or density (per square kilometer) of railroad tracks, highways, and navigable inland rivers, and the numbers of telephones and facsimile (fax) machines, are used to estimate differences between the Coastal and Inland Regions.

Although total miles of railroad tracks, highways, and navigable rivers in coastal provinces and municipalities appear to be less than in the Inland Regions, availability of transportation per square kilometer is much higher in the Coastal Region because of its much smaller land area. In addition, the expansion of telephones and fax machines has been far greater in coastal provinces and municipalities than in inland provinces.



## Most of China's Infrastructure Is in the Coastal Region . . .

Region	Railroads	Highways	Navigable rivers	Telephones	Fax machines
	--- Km per 1,000 sq. km ---			--- 1,000 ---	
Coastal	12.9	287.9	50.2	9,026	708
Inland:					
Central	6.3	113.6	10.0	5,412	236
Western	1.7	36.3	.2	57	25
Average	5.6	109.2	11.5	--	--
Total	--	--	--	14,990	969

1991 data.

Source: China Statistical Yearbook.

-- = Not applicable.

## Which Produced Over Half of China's Rural Output In 1990...

Region	Share of total rural social output*	Share from		
		Agriculture	Industry	Other
	Percent	Percent		
Coastal	56.2	35.2	52.3	12.5
Inland:				
Central	41.2	57.6	26.1	16.3
Western	2.6	74.6	11.6	13.8
Total	100.0	45.1	40.4	14.5

\* Includes the combined "material" output of agriculture, industry, construction, commerce, and transportation, but excludes "nonmaterial" contributions such as services.

Source: China Statistical Yearbook.

## ...and Had the Highest Farm Incomes

Region	Per capita					
	Farm Income		Grain consumption		Red meat consumption	
	1980	1990	1980	1990	1980	1990
	----- Yuan -----		----- Kg -----			
Coastal	220	862	236	252	6.4	10.2
Inland:						
Central	179	609	260	279	8.0	12.5
Western	169	535	229	244	8.4	9.6
Average	191	686	257	262	7.6	11.3

US\$1 = 1.50 yuan in 1980; US\$1 = 4.76 yuan in 1990.

Source: Calculated from agricultural population data and provincial per capita income and consumption statistics from the China Statistical Yearbook.

## Coastal Region Shows Strongest Economic Growth

After more than a decade of economic reform, the Coastal Region has experienced much greater overall economic development than the Inland Region. The Coastal Region, with its small land area and relatively high population density, was generating more than one-half of China's gross national product by the end of the 1980's. Because China does not publish rural

GNP data by province, the gross value of rural social output is used to measure China's overall rural economic development.

In 1980, the Coastal Region generated almost 46.6 percent of the country's rural social output. This share rose to 56.2 percent in 1990, exceeding the combined shares of 41.2 percent for the central portion and 2.6 percent for the western portion of the Inland Region.

## Special Articles

### The Coastal Region Has Outpaced the Inland Region In Agricultural Productivity. . .

Region	Rural social output		Agricultural output		Grain production	
	1983	1990	1983	1990	1983	1990
	----- Yuan per laborer -----				---- Kg per laborer ----	
Coastal	1,475	5,917	984	3,093	1,232	1,453
Inland:						
Central	997	2,697	796	1,890	1,226	1,281
Western	912	2,636	939	2,450	1,109	1,339
Average	1,166	3,883	869	2,298	1,224	1,339

US\$1 = 1.98 yuan in 1983; US\$1 = 4.78 yuan in 1990.

Source: China Statistical Yearbook.

### . . . but Regularly Produces a Grain Deficit

Region	Grain procurement		Grain sales		Surplus/deficit *	
	1990	1991	1990	1991	1990	1991
	1,000 metric tons					
Coastal	40,070	41,895	41,307	46,125	-1,237	-4,230
Inland:						
Central	77,594	70,143	47,382	52,477	30,211	17,666
Western	4,900	4,238	3,901	3,864	988	372
Total	122,564	116,275	92,291	102,467	30,273	13,808

\* A negative sign denotes deficit grain situation.

Source: China Commerce Yearbook, 1991 and 1992.

Agricultural output as a share of rural social output for the Coastal Region declined sharply from 60.1 percent in 1980 to 35.2 percent in 1990. This was a major reason agriculture's share of China's total rural social output dropped below 50 percent by the end of the 1980's. In contrast, the share for the Inland Region dropped much more slowly, and still accounted for more than one-half of the region's total rural social output in 1990.

Industry's share of rural social output for the Coastal Region increased from 27.4 percent in 1980 to 52.3 percent in 1990. For the Inland Region, rural industry's output shares in both the central and western parts increased from 1980 to 1990, but remained far below 50 percent.

Rural village and township enterprises have absorbed more than 90 million rural people who have shifted away from agricultural production between 1980 and 1990. While many still live in rural areas, others have temporarily migrated to other provinces.

### Inland Regions Produce Surplus Grain

Under China's unique grain procurement system, grain procured by the government is used mainly for rations to urban residents and military personnel, in industrial processing, and for strategic stocks. In general, balances of total annual procurement and sales of grain—mostly rice, wheat, and corn—can be used to illustrate grain self-sufficiency levels.

In 1990 and 1991, the coastal provinces as a whole posted shortages of 1.24 million and 4.23 million tons of grain (net domestic purchases minus net domestic sales), with only Liaoning and Hebei Provinces managing to sustain grain self sufficiency both years. Individual provinces and municipalities, such as Guangdong, Beijing, and Shanghai, have had net grain shortages of 1.5 to 2.5 million tons annually.

The shortage of food and feed grains in coastal provinces, particularly Guangdong Province, has become more serious as additional farmers switch from grain production to fish, fruit, and vegetable production. Cultivated area has declined in recent years due to increased construction and industrialization. It is estimated that Guangdong Province will need to import 5 million tons of grain from other provinces or foreign countries in 1993.

When China's grain production stagnated in the late 1980's, Guangdong Province tried to import grain from Hunan and other neighboring provinces. However, exporting provinces set up physical barriers to this trade because they generally lost money due to the government's low, fixed domestic transfer prices existing at that time.

Interregional or interprovincial trade relations were very tense at that time. But the situation has improved in the last 2 or 3 years, since China's central government began allowing some coastal provinces to relax grain price restrictions and use wholesale markets to transfer grain from surplus to deficit areas.



In contrast, for the Inland Region the annual balance of total grain procurement and sales showed surpluses of 31.2 and 18 million tons for 1990 and 1991. And only five provinces, Yunnan, Guizhou, Guangxi, Qinghai, and Xizang, were below grain self sufficiency. Heilongjiang, Jilin, Henan, Hubei, and Jiangxi Provinces in the Inland Region reported net grain surpluses (mostly corn) of 2 million to 10 million tons.

The overall grain surplus situation indicates that although inland provinces produce grain less efficiently than the Coastal Region, they nevertheless provide more grain for China's market.

### *Peasants' Incomes Highest in Coastal Regions*

Due to faster growth in per capita labor productivity and the rapid development of rural enterprises, average peasant household incomes in most coastal provinces (except for Hebei, Shandong, and Hainan) are higher than the national average. Average household incomes of peasants in coastal provinces have grown faster than in the Inland Region, where only about one-half of the provinces have achieved a slightly higher growth rate than the national average.

In addition, after more than a decade of reform, household incomes of peasants in some provinces of the Inland Region are further behind the national average than they were 10 years earlier. For example, household incomes in Hunan Province were about the same as that of Jiangsu Province in 1980, but by 1990 Hunan Province was behind Jiangsu Province by more than 30 percent. Another example is Guizhou Province, one of China's specified poverty areas, where per capita peasant household incomes were 16 percent lower than the national average in 1980, but were 34 percent lower by 1990.

Changes in provincial per capita grain and meat consumption by peasants show no definite regional pattern. The share of fine grains (rice and wheat) in per capita grain consumption has shown sharp increases in both the Coastal and Inland Regions, particularly in each region's northern provinces. The northern provinces are Liaoning, Hebei, Shandong, Shanxi, Shaanxi, and Henan. The major reason for the increase in the proportion of grain consumption accounted for by wheat and rice has been the significant rise in wheat yields in the North China Plains during the 1980's.

In general, per capita red meat consumption by peasants has grown faster in the Coastal Region than in the Inland Region due to the Coastal Region's faster economic growth. While per capita red meat consumption by peasants is higher in suburban areas of larger cities and in the southern provinces of the Coastal Region, some remote and poor provinces in southwestern China, such as Yunnan, Guizhou, Sichuan, and Xizang, also reported per capita red meat consumption higher than the national average.

Nei Monggol and Qinghai, two provinces in northwestern China, also show higher per capita red meat consumption among peasants than the national average. This indicates that, in addition to income, many other factors, including the transportation system, religion, and type of farming system (cropping or grazing), also affect the amount of red meat consumed.

Local production largely determines the availability of animal meat per person because of China's poor storage and transportation system. The grazing regions, such as Xizang, Nei Monggol, and Qinghai where the majority of China's Muslim population is located, produce and consume more beef and mutton than the national average. Sichuan Province, an important producer of pork, consumes more pork than other provinces.

### *Coastal Region Dominates Foreign Trade*

It is not surprising that foreign trade has been much greater, in both volume and value, for the coastal provinces than farther inland. Since the implementation of the open-door trade policy in the late 1970's, China has encouraged all provinces to trade with foreign countries in order to earn hard currency. Coastal provinces (including nonrural areas) contributed more than 70 percent of China's total exports from 1984 (the earliest year for which export statistics are available) through 1990. Guangdong Province alone exported more in terms of value in 1990 than the entire Inland Region.

The Inland Region as a whole contributed only 14-20 percent of China's total annual exports between 1984 and 1990. In the last few years, the central government has encouraged border trade with neighboring countries and has achieved great success, particularly with the new republics of the former USSR. Border trade with neighboring countries will be important to developing rural industries in the Inland Region.

The rural reform and development strategies adopted by China's government since the late 1970's have been very effective at raising standards of living for the country as a whole. However, faster rural development in the Coastal Region has widened the distance between the Inland Region and the Coastal Region in terms of overall rural social output and average peasant household income.

Based on the above analysis, the following actions could help curb the continuation of unbalanced development:

- New policies or strategies designed to lure more domestic and foreign investment toward rural development in inland provinces, particularly areas of severe poverty, could be developed. Provincial government cooperation and support in the planning and implementing of such new strategies would be needed.

## Special Articles

- China's central and provincial governments could invest in infrastructure, including transportation, communication networks, and rural financial services to encourage domestic and foreign investment in inland provinces. The central and local governments might also establish preferential investment regulations for inland provinces to provide a favorable development environment. Some rural areas in the Inland Region near cities and townships, particularly those along waterways, could be selected for immediate infrastructure development, while plans could be made to gradually develop the entire region.
- China's central and provincial governments in the Coastal Region could further liberalize pricing and foreign trade regulations, including those regulations concerning agricultural imports (particularly food and feed grains) to meet high-income import demand. This would likely lead to sustained and more balanced rural economic growth, increasing China's overall economic welfare and reducing trade conflicts between regions. Eventually, inland provinces would likely achieve the maximum benefit by following the same policies as the Coastal Region in allowing optimal returns to resources.

[Francis Tuan (202) 219-0610] **AO**

### Upcoming Reports from USDA's Economic Research Service

The following are October release dates for ERS update reports (specified) and for summaries of situation and outlook reports. Summaries are issued at 3 p.m. Eastern time.

#### October

13	<i>Cotton &amp; Wool Update</i>
14	<i>Agricultural Resources—Inputs</i>
20	<i>Agricultural Outlook</i> <i>U.S. Agricultural Trade Update</i>
21	<i>Rice</i>
22	<i>Oil Crops</i> <i>Livestock &amp; Poultry Update</i>
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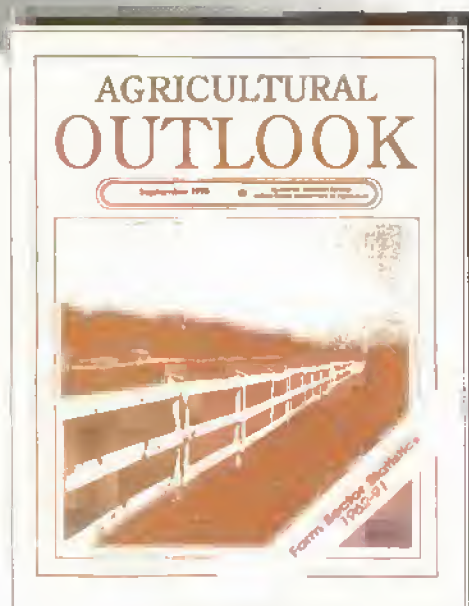
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# Statistical Indicators

## Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1992		1993					1994	
	IV	Annual	I	II	III F	IV F	Annual F	I F	Annual F
Prices received by farmers (1977=100)	137	140	140	143	141	—	—	—	—
Livestock & products	157	157	162	167	162	—	—	—	—
Crops	117	121	117	119	120	—	—	—	—
Prices paid by farmers (1977=100)									
Production items	175	174	176	178	—	—	—	—	—
Commodities & services, interest, taxes, & wages	192	191	194	197	—	—	—	—	—
Cash receipts (\$ bil.) 1/	183	169	184	—	—	—	—	—	—
Livestock (\$ bil.)	89	88	88	—	—	—	—	—	—
Crops (\$ bil.)	73	83	78	—	—	—	—	—	—
Market basket (1982-84=100)									
Retail cost	139	138	141	—	—	—	—	—	—
Farm value	104	103	105	—	—	—	—	—	—
Spread	158	157	160	—	—	—	—	—	—
Farm value/retail cost (%)	26	26	26	—	—	—	—	—	—
Retail prices (1982-84=100)									
Food	139	138	140	141	—	—	—	—	—
At home	137	137	139	140	—	—	—	—	—
Away from home	142	141	142	143	—	—	—	—	—
Agricultural exports (\$ bil.) 2/	11.8	42.4	11.4	10.1	9.2	11.6	42.5	—	—
Agricultural imports (\$ bil.) 2/	6.1	24.3	6.4	6.3	6.2	6.2	25.0	—	—
Commercial production									
Red meat (mil. lb.)	10,379	40,795	9,716	9,993	10,548	10,833	40,890	10,305	42,175
Poultry (mil. lb.)	6,644	28,398	6,542	6,982	7,155	6,915	27,593	6,800	28,740
Eggs (mil. doz.)	1,501	5,883	1,458	1,471	1,485	1,525	5,939	1,480	5,990
Milk (bil. lb.)	37.2	151.7	37.8	39.8	37.2	37.0	151.6	38.4	154.8
Consumption, per capita									
Red meat and poultry (lb.)	53.8	208.4	50.4	51.1	53.7	54.5	209.7	52.1	214.4
Corn beginning stocks (mil. bu.) 3/	2,738.6	—	1,100.3	7,908.4	5,678.2	3,709.4	—	—	—
Corn use (mil. bu.) 3/	1,641.8	7,918.1	2,674.1	2,229.2	1,970.8	1,560.9	8,435.0	—	—
Prices 4/									
Choice steers—Neb. Direct (\$/cwt)	75.88	75.36	80.65	79.78	73-74	71-77	76-78	71-77	71-77
Barrows & gilts—I.A. So. MN (\$/cwt)	42.48	43.03	44.92	47.59	47-48	39-45	45-47	39-45	41-47
Broilers—12-city (cts./lb.)	53.3	52.6	53.1	55.8	55-56	49-55	53-55	49-55	50-56
Eggs—NY gr. A large (cts./doz.)	71.4	65.4	75.8	73.4	70-71	71-77	72-74	68-74	67-73
Milk—all at plant (\$/cwt)	13.10	13.09	12.33	12.9	12.60-12.80	12.60-13.60	12.60-12.90	11.20-12.20	11.35-12.35
Wheat—KC HRW ordinary (\$/bu.)	3.73	3.91	3.82	3.48	—	—	—	—	—
Corn—Chicago (\$/bu.)	2.12	2.41	2.18	2.27	—	—	—	—	—
Soybeans—Chicago (\$/bu.)	5.52	5.68	5.83	5.95	—	—	—	—	—
Cotton—Avg. spot 41-34 (cts./lb.)	50.4	53.9	55.2	55.7	—	—	—	—	—
	1985	1986	1987	1988	1989	1990	1991	1992	1993 F
Farm real estate values 5/									
Nominal (\$ per acre)	713	640	599	632	661	668	681	684	700
Real (1982 \$)	657	568	518	530	533	517	505	487	488

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Sept.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sept.-Aug. annual. Use includes exports & domestic disappearance. 4/ Simple averages, Jan.-Dec. 5/ 1990-92 values as of January 1. 1986-89 values as of February 1. 1984-85 values as of April 1. F = forecast, — = not available.



## U.S. &amp; Foreign Economic Data

Table 2.—U.S. Gross Domestic Product &amp; Related Data

	Annual			1992			1993	
	1990	1991	1992	II	III	IV	I	II P
\$ billion (quarterly data seasonally adjusted at annual rates)								
Gross domestic product	5,548.1	5,722.9	6,038.5	5,991.4	6,059.5	6,194.4	6,281.6	6,325.7
Gross national product	5,567.8	5,737.1	6,045.8	5,996.3	6,067.3	6,191.9	6,282.1	6,323.3
Personal consumption expenditures	3,761.2	3,906.4	4,139.9	4,099.9	4,157.1	4,256.2	4,296.2	4,357.1
Durable goods	488.2	457.8	497.3	487.8	500.9	516.6	515.3	531.6
Nondurable goods	1,229.2	1,257.9	1,300.9	1,288.2	1,305.7	1,331.7	1,335.3	1,344.4
Clothing & shoes	207.3	213.0	228.2	224.5	230.7	236.1	233.1	235.3
Food & beverages	604.8	621.4	633.7	626.6	631.7	647.6	648.2	653.2
Services	2,063.8	2,190.7	2,341.8	2,323.8	2,350.5	2,407.9	2,445.5	2,481.1
Gross private domestic investment	808.9	736.9	796.5	799.7	802.2	833.3	874.1	873.0
Fixed investment	802.0	745.5	789.1	786.8	792.5	821.3	839.5	859.1
Change in business inventories	8.9	-8.6	7.3	12.9	9.7	12.0	34.6	13.9
Net exports of goods & services	-71.4	-19.6	-29.6	-33.9	-38.8	-38.8	-48.3	-62.8
Government purchases of goods & services	1,047.4	1,099.3	1,131.8	1,125.8	1,139.1	1,143.8	1,139.7	1,158.4
1987 \$ billion (quarterly data seasonally adjusted at annual rates)								
Gross domestic product	4,897.3	4,861.4	4,986.3	4,956.5	4,998.2	5,068.3	5,078.2	5,101.0
Gross national product	4,916.5	4,874.5	4,994.0	4,962.2	5,006.4	5,068.4	5,080.7	5,101.3
Personal consumption expenditures	3,272.6	3,258.6	3,341.8	3,316.8	3,350.9	3,397.2	3,403.8	3,430.8
Durable goods	443.1	428.6	456.6	447.5	459.0	473.4	471.9	484.2
Nondurable goods	1,060.7	1,048.2	1,062.9	1,055.0	1,062.9	1,081.8	1,076.0	1,082.8
Clothing & shoes	188.2	184.7	193.7	191.1	195.4	200.0	194.8	197.9
Food & beverages	523.9	516.7	520.5	515.7	518.2	529.3	526.7	527.9
Services	1,768.8	1,783.8	1,822.3	1,814.3	1,829.0	1,842.0	1,855.9	1,863.8
Gross private domestic investment	746.8	675.7	732.9	737.0	739.6	763.0	803.0	802.2
Fixed investment	741.1	684.1	726.4	724.4	730.0	754.3	773.7	788.4
Change in business inventories	5.7	-8.4	6.5	12.6	9.6	8.7	29.3	13.9
Net exports of goods & services	-54.7	-19.1	-33.6	-38.0	-42.5	-38.8	-59.0	-73.1
Government purchases of goods & services	932.8	948.3	945.2	940.7	950.2	946.9	931.3	941.1
GDP implicit price deflator (% change)	4.4	3.9	2.9	3.0	1.0	3.3	3.6	2.3
Disposable personal income (\$ bil.)	4,050.5	4,230.5	4,500.2	4,459.2	4,497.0	4,657.6	4,597.5	4,693.4
Disposable per. income (1987 \$ bil.)	3,524.5	3,529.0	3,632.5	3,607.5	3,624.8	3,717.6	3,642.6	3,695.6
Per capita disposable per. income (\$)	18,205	16,741	17,615	17,481	18,153	17,577	17,876	18,201
Per capita dis. per. income (1987 \$)	14,101	13,965	14,219	14,142	14,169	14,490	14,163	14,331
U.S. population, total, incl. military abroad (mil.) *	249.9	252.7	255.5	255.0	255.7	256.5	257.1	257.7
Civilian population (mil.) *	247.8	250.5	253.5	253.0	253.8	254.6	255.3	255.9
	Annual			1992		1993		
	1990	1991	1992	July	Apr	May	June	July
Monthly data seasonally adjusted								
Industrial production (1987=100)	106.0	104.1	108.5	108.8	110.4	110.2	110.2	110.6
Leading economic indicators (1982=100)	143.8	143.4	148.9	148.9	152.0	151.4	151.8	151.5
Civilian employment (mil. persons)	117.9	116.9	117.6	117.7	118.4	119.3	119.2	119.3
Civilian unemployment rate (%)	5.5	6.7	7.4	7.6	7.0	6.9	7.0	6.8
Personal income (\$ bil. annual rate)	4,673.8	4,850.9	5,144.9	5,128.8	5,366.0	5,383.2	5,377.9	5,368.2
Money stock—M2 (daily avg.) (\$ bil.) 1/	3,345.5	3,445.8	3,497.8	3,463.7	3,476.7	3,507.1	3,514.7	3,520.4
Three-month Treasury bill rate (%)	7.51	5.42	3.45	3.28	2.89	2.96	3.10	3.05
AAA corporate bond yield (Moody's) (%)	9.32	8.77	8.14	8.07	7.46	7.43	7.33	7.17
Housing starts (1,000) 2/	1,193	1,014	1,200	1,108	1,206	1,248	1,246	1,212
Auto sales at retail, total (mil.)	9.5	8.4	8.4	8.3	9.0	9.1	8.8	8.6
Business inventory/sales ratio	1.53	1.54	1.50	1.50	1.47	1.47	1.47	—
Sales of all retail stores (\$ bil.) 3/	1,849.8	1,865.5	1,962.4	1,62.4	170.5	171.7	172.1	172.3
Nondurable goods stores (\$ bil.)	1,178.8	1,211.8	1,257.3	103.9	107.7	108.0	108.0	108.2
Food stores (\$ bil.)	369.8	376.9	384.0	31.9	32.5	32.3	32.4	32.4
Eating & drinking places (\$ bil.)	191.0	196.9	201.9	18.1	17.5	17.6	17.6	17.7
Apparel & accessory stores (\$ bil.)	95.8	97.5	105.0	8.8	8.8	8.9	8.9	9.1

1/ Annual data as of December of the year listed. 2/ Private, including farm. 3/ Annual total. P = preliminary. — = not available.

Note: \* Population estimates based on 1990 census.

Information contact: Ann Duncan (202) 219-0313.

Table 3.—Foreign Economic Growth, Inflation, &amp; Exports

	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 E	1993 F	1994 F	Average 1983-92
Annual percent change													
World, less U.S.													
Real GDP	2.4	3.8	3.4	3.0	3.5	4.4	3.5	3.0	1.1	1.1	1.0	2.5	2.9
GDP deflator	8.8	8.2	8.6	7.8	9.0	10.6	10.8	23.8	16.2	49.3	38.6	28.1	15.3
Real exports	2.7	9.7	3.8	2.1	5.0	7.0	7.8	6.2	3.0	2.5	2.9	4.3	5.0
Developed less U.S.													
Real GDP	2.1	3.2	3.4	2.7	3.2	4.5	3.6	3.5	1.4	1.0	0.2	1.9	2.9
GDP deflator	8.6	5.2	4.6	4.3	2.9	3.3	4.1	3.2	3.4	4.5	2.3	2.4	4.2
Real exports	3.5	10.8	5.2	-0.2	2.9	6.2	7.9	6.9	3.9	2.6	1.9	3.7	5.0
Eastern Europe & F.S.U.													
Real GDP	3.8	4.0	2.3	3.6	2.6	3.6	1.5	-3.1	-13.3	-13.8	-7.4	-3.3	-0.9
GDP deflator 1/	4.2	5.0	6.4	8.1	12.8	35.3	41.3	192.3	68.9	204.4	89.7	50.9	57.9
Real exports	4.6	8.2	-4.0	9.1	7.8	8.5	-5.3	-6.9	-22.6	-13.3	-3.4	0.6	-1.6
Developing													
Real GDP	3.1	4.7	4.0	3.9	4.5	4.4	3.6	3.2	3.7	4.5	4.9	5.0	4.0
GDP deflator	38.7	37.3	38.4	25.5	33.1	26.4	19.2	16.9	14.8	14.9	14.9	14.9	26.3
Real exports	0.4	7.2	1.7	7.5	11.1	9.4	9.0	5.8	5.7	4.9	6.6	6.4	6.2
Asia													
Real GDP	8.2	7.9	5.9	7.2	8.6	9.1	5.5	5.7	5.0	6.7	6.4	6.3	7.0
GDP deflator	6.3	7.5	5.9	4.4	7.8	8.2	6.1	8.4	8.5	8.6	7.4	8.1	7.2
Real exports	6.4	11.3	2.9	19.0	15.8	14.9	8.2	7.4	9.5	8.3	8.9	8.5	10.4
Latin America													
Real GDP	-2.7	3.7	3.6	4.4	3.0	0.0	1.3	-1.3	2.6	2.1	3.0	3.7	1.7
GDP deflator 1/	30.3	40.8	69.0	62.8	125.5	68.5	35.9	29.6	22.7	23.0	22.0	20.5	50.6
Real exports	2.0	12.0	2.0	0.0	8.0	6.8	10.4	3.2	3.3	3.1	6.4	7.3	5.1
Africa													
Real GDP	1.1	2.2	2.9	1.4	0.6	2.9	2.8	0.9	2.2	1.1	2.7	3.3	1.7
GDP deflator	17.0	13.1	12.2	8.5	25.7	17.4	19.6	15.0	18.2	13.8	15.3	16.5	16.1
Real exports	-5.3	-1.5	3.5	-1.0	0.0	2.9	5.0	8.4	2.1	0.1	4.8	2.9	1.4
Middle East													
Real GDP	4.5	1.2	1.7	-3.8	-0.1	-0.2	2.5	5.8	2.9	4.9	4.8	4.2	2.0
GDP deflator	-4.5	1.2	3.1	5.7	14.8	9.5	13.5	20.4	2.7	9.6	12.8	11.6	7.6
Real exports	-19.6	-6.7	-7.1	-3.8	24.6	4.8	21.0	6.0	2.9	13.8	4.9	15.8	3.6

1/ Excludes Yugoslavia, Argentina, Brazil, & Peru starting in 1989. E = estimate. F = forecast.

Information contact: Alberto Jerardo, (202) 219-0705.

## Farm Prices

Table 4.—Indexes of Prices Received &amp; Paid by Farmers, U.S. Average

	Annual			1992		1993				
	1990	1991	1992	Aug	Mar	Apr	May	June	July R	Aug P
1977 = 100										
Prices received										
All farm products	149	145	140	139	142	146	144	140	140	142
All crops	127	129	121	117	116	126	120	112	118	122
Food grains	123	115	109	123	132	130	124	113	114	120
Feed grains & hay	123	117	116	110	110	113	113	110	113	113
Feed grains	118	115	114	108	105	107	106	104	110	109
Cotton	107	108	88	89	92	90	88	88	89	85
Tobacco	152	161	154	148	167	141	141	141	141	143
Oil-bearing crops	94	91	86	84	90	91	92	93	101	99
Fruit, all	186	262	181	157	116	133	142	146	142	195
Fresh market 1/	196	285	185	157	109	127	137	148	143	207
Commercial vegetables	142	135	155	156	154	241	182	123	140	141
Fresh market	144	140	167	162	163	278	197	118	143	144
Potatoes & dry beans	189	141	124	157	156	175	177	154	184	157
Livestock & products	170	181	157	160	166	167	168	166	161	162
Meat animals	193	186	176	178	192	191	192	188	182	184
Dairy products	141	126	135	139	128	130	134	135	132	130
Poultry & eggs	131	124	117	119	130	131	130	129	124	130
Prices paid										
Commodities & services,										
interest, taxes, & wage rates	184	189	191	192	194	197	197	197	197	197
Production items	171	174	174	175	176	179	179	178	179	178
Feed	128	123	123	—	—	124	—	—	124	—
Feeder livestock	213	214	202	—	—	222	—	—	218	—
Seed	165	163	162	—	—	169	—	—	169	—
Fertilizer	131	134	131	—	—	129	—	—	129	—
Agricultural chemicals	139	151	159	—	—	166	—	—	166	—
Fuels & energy	204	203	199	—	—	199	—	—	198	—
Farm & motor supplies	154	157	160	—	—	159	—	—	159	—
Autos & trucks	231	244	258	—	—	272	—	—	275	—
Tractors & self-propelled machinery	202	211	219	—	—	223	—	—	223	—
Other machinery	216	226	233	—	—	245	—	—	245	—
Building & fencing	144	146	150	—	—	162	—	—	156	—
Farm services & cash rent	166	171	172	—	—	172	—	—	172	—
Int. payable per acre on farm real estate debt	177	169	167	—	—	164	—	—	164	—
Taxes payable per acre on farm real estate	158	164	171	—	—	178	—	—	178	—
Wage rates (seasonally adjusted)	191	200	209	—	—	223	—	—	223	—
Production items, interest, taxes, & wage rates	172	175	176	—	—	181	—	—	180	—
Ratio, prices received to prices paid (%) 2/	81	77	73	72	73	74	73	71	71	72
Prices received (1910-14=100)	681	665	637	633	647	669	660	639	639	651
Prices paid, etc. (parity index) (1910-14=100)	1,267	1,298	1,317	—	—	1,357	—	—	1,356	—
Parity ratio (1910-14=100) (%) 2/	54	51	49	—	—	49	—	—	47	—

1/ Fresh market for noncitrus; fresh market & processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities & services, interest, taxes, & wage rates. Ratio uses the most recent prices paid index. Prices paid data are quarterly & will be published in January, April, July, & October. R = revised. P = preliminary. — = not available.

Information contact: Ann Duncan (202) 219-0313.



Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1992	1993					
	1990	1991	1992	Aug	Mar	Apr	May	June	July R	Aug P
CROPS										
All wheat (\$/bu.)	2.81	3.00	3.24	3.01	3.30	3.25	3.10	2.82	2.85	3.01
Rice, rough (\$/cwt)	6.70	7.58	5.95	6.80	5.64	5.52	5.24	5.02	4.92	4.96
Corn (\$/bu.)	2.28	2.37	2.05	2.15	2.10	2.16	2.13	2.09	2.22	2.20
Sorghum (\$/cwt)	3.79	4.01	3.30	3.77	3.38	3.38	3.34	3.41	3.72	3.78
All hay, baled (\$/ton)	80.60	71.20	73.20	69.20	78.90	83.80	86.30	80.50	77.20	77.40
Soybeans (\$/bu.)	5.74	5.58	5.50	5.40	5.65	5.73	5.81	5.90	6.57	6.36
Cotton, upland (cts./lb.)	67.1	56.8	—	53.7	55.5	54.3	53.2	53.0	54.1	51.2
Potatoes (\$/cwt)	6.08	4.96	5.28	6.60	6.41	7.47	7.63	6.57	7.93	6.55
Lettuce (\$/cwt) 2/	11.50	11.40	12.40	19.90	14.70	37.50	12.50	11.50	18.90	14.60
Tomatoes fresh (\$/cwt) 2/	27.30	31.80	36.20	23.60	21.20	45.20	58.50	21.90	20.00	29.50
Onions (\$/cwt)	10.50	12.50	12.80	14.80	17.00	31.70	24.10	10.30	13.10	13.70
Dry edible beans (\$/cwt)	18.50	15.60	20.70	18.20	20.10	18.10	17.70	16.50	18.70	19.10
Apples for fresh use (cts./lb.)	20.9	25.1	19.2	33.3	15.2	14.7	15.3	16.1	18.0	23.1
Pears for fresh use (\$/ton)	360.00	385.00	378.00	273.00	399.00	429.00	478.00	538.00	401.00	353.00
Oranges, all uses (\$/box) 3/	6.13	6.78	5.79	0.99	2.11	3.23	3.65	3.89	4.10	5.38
Grapefruit, all uses (\$/box) 3/	5.86	5.55	6.25	4.08	1.48	2.13	1.62	0.98	0.14	3.65
LIVESTOCK										
Beef cattle (\$/cwt)	74.80	72.90	71.38	71.80	77.30	77.40	76.90	74.70	72.60	73.00
Calves (\$/cwt)	96.50	99.90	89.65	90.40	98.20	99.80	100.00	99.00	98.90	96.30
Hogs (\$/cwt)	54.00	48.80	41.88	44.10	46.80	45.50	47.00	48.20	45.90	47.00
Lambs (\$/cwt)	56.00	52.50	60.76	55.90	76.30	68.50	61.80	56.80	54.20	57.10
All milk, sold to plants (\$/cwt)	13.74	12.27	13.15	13.50	12.20	12.60	13.00	13.10	12.80	12.60
Milk, manuf. grade (\$/cwt)	12.34	11.05	11.91	12.30	11.10	12.00	12.40	11.90	11.30	11.10
Broilers (cts./lb.)	32.4	31.0	30.8	34.3	32.4	33.2	35.7	34.4	35.0	36.3
Eggs (cts./doz.) 4/	70.4	66.2	57.7	53.6	70.7	69.3	62.9	65.4	57.6	61.3
Turkeys (cts./lb.)	38.4	37.7	36.0	37.8	37.2	37.7	38.4	37.3	38.9	39.5
Wool (cts./lb.) 5/	80.0	55.0	74.0	62.0	45.5	45.5	55.0	55.1	48.6	38.8

1/ Season average price by crop year for crops. Calendar year average of monthly prices for livestock. 2/ Excludes Hawaii. 3/ Equivalent on-tree returns. 4/ Average of all eggs sold by producers including hatching eggs & eggs sold at retail. 5/ Average local market price, excluding incentive payments. P = preliminary. R = revised. — = not available.

Information contact: Ann Duncan (202) 219-0313.

## Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Nat Seasonally Adjusted)

	Annual	1992	1993							
	1992	Aug	Jan	Feb	Mar	Apr	May	June	July	Aug
			1982-84=100							
Consumer Price Index, all items	140.3	136.8	142.6	143.1	143.6	144.0	144.2	144.4	144.4	144.8
Consumer Price Index, less food	140.8	136.7	143.1	143.7	144.2	144.6	144.8	145.1	145.2	145.6
All food	137.9	136.0	139.8	139.9	140.1	140.6	141.1	140.4	140.3	140.8
Food away from home	140.7	136.0	142.0	142.2	142.4	142.7	142.9	143.2	143.4	143.6
Food at home	136.8	134.9	139.1	139.1	139.4	140.0	140.7	139.3	139.1	139.7
Meats 1/	130.7	132.9	132.3	132.1	133.1	133.8	134.7	134.9	135.5	135.6
Beef & veal	132.3	132.3	135.1	135.6	136.3	137.6	138.2	137.6	137.4	137.4
Pork	127.8	135.7	127.9	127.2	129.0	128.5	130.5	132.1	134.2	133.8
Poultry	131.4	132.4	134.6	133.1	135.7	135.2	136.6	136.5	136.0	137.5
Fish	151.7	145.2	157.2	157.5	157.8	159.7	154.7	154.8	153.2	154.1
Eggs	108.3	121.0	116.2	115.6	120.3	126.9	114.9	116.4	115.1	117.4
Dairy products 2/	128.5	124.5	129.5	128.8	128.8	128.0	128.0	129.8	130.2	130.5
Fats & oils 3/	129.8	132.1	130.2	130.7	130.2	130.2	129.4	130.1	130.4	130.1
Fresh fruit	184.2	187.4	191.0	187.0	184.4	184.6	188.0	176.1	178.7	184.7
Processed fruit	137.7	130.9	133.3	134.5	132.0	132.1	130.7	129.7	131.0	132.2
Fresh vegetables	157.9	142.2	172.4	171.1	173.7	179.3	189.6	167.1	155.8	156.1
Potatoes	141.5	156.2	139.7	138.9	142.4	152.0	156.0	163.4	165.2	165.8
Processed vegetables	128.8	128.7	129.8	128.9	130.2	130.4	129.9	130.9	131.2	131.4
Cereals & bakery products	151.5	148.5	153.4	154.9	154.8	155.4	156.3	156.7	157.2	157.5
Sugar & sweets	133.1	130.3	133.1	133.3	132.8	133.2	133.4	133.1	133.2	133.7
Beverages, nonalcoholic	114.3	112.9	113.5	115.1	114.8	114.2	115.0	114.6	114.4	114.1
Apparel										
Apparel, commodities less footwear	130.2	123.2	127.3	131.9	135.2	135.9	133.4	129.7	126.9	130.0
Footwear	125.0	120.2	124.4	125.2	126.3	127.1	127.8	125.6	123.9	123.5
Tobacco & smoking products	219.8	204.7	234.6	235.6	236.3	237.3	237.9	236.2	235.8	227.9
Beverages, alcoholic	147.3	143.8	148.7	149.1	149.4	149.7	149.5	149.6	149.8	149.7

1/ Beef, veal, lamb, pork, & processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ann Duncan (202) 219-0313.

Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1992	1993					
	1990	1991	1992	July	Feb	Mar R	Apr	May	June	July
	1982 = 100									
All commodities	116.3	116.5	117.2	117.9	118.4	118.7	119.2	119.7	119.6	119.3
Finished goods 1/	119.2	121.7	123.2	123.7	124.5	124.7	125.3	125.7	125.6	125.3
All foods 2/	123.2	122.2	120.8	120.4	122.2	122.6	124.2	124.8	123.2	123.1
Consumer foods	124.4	124.1	123.3	122.8	124.5	124.8	126.3	126.7	125.4	125.0
Fresh fruit & melons	118.1	129.9	83.8	70.8	78.7	74.2	73.3	89.9	82.3	79.5
Fresh & dried vegetables	118.1	103.8	115.0	99.9	136.9	132.5	174.0	163.7	104.5	116.3
Dried fruit	106.7	111.8	114.4	114.5	115.7	116.4	115.8	115.9	115.5	117.1
Canned fruit & juice	127.0	128.6	134.5	135.7	127.5	125.8	124.5	124.3	124.4	125.7
Frozen fruit & juice	139.0	118.3	125.8	123.7	105.8	104.6	104.6	105.8	112.4	117.0
Fresh veg., excl. potatoes	107.8	100.2	116.4	85.5	125.8	117.4	178.5	163.5	80.6	98.4
Canned veg. & juices	116.7	112.9	109.6	109.5	109.8	109.7	108.7	108.8	109.5	110.9
Frozen vegetables	118.4	117.6	116.4	115.4	118.0	117.9	118.6	119.9	120.8	121.2
Potatoes	157.3	125.7	118.3	195.0	119.1	131.3	144.0	142.3	147.5	137.3
Eggs for fresh use (1991=100)	3/	3/	78.6	71.5	87.9	99.0	91.9	82.9	87.6	77.5
Bakery products	141.0	146.6	152.5	153.0	155.7	155.8	156.0	155.9	156.4	156.6
Meats	117.0	113.5	106.7	107.1	109.7	111.7	113.0	113.9	113.4	111.2
Beef & veal	116.0	112.2	109.7	107.5	114.9	116.4	117.3	119.2	116.4	112.5
Pork	119.8	113.4	98.5	103.4	99.9	103.9	106.4	106.3	109.2	107.4
Processed poultry	113.6	109.9	109.1	110.0	108.4	109.1	110.0	111.4	111.4	110.1
Fish	147.2	149.5	153.0	155.8	167.2	166.3	160.8	159.0	156.2	147.2
Dairy products	117.2	114.6	118.0	119.4	115.4	115.0	116.9	118.4	119.8	119.4
Processed fruits & vegetables	124.7	119.6	120.8	120.6	117.0	116.4	115.9	116.3	117.5	119.0
Shortening & cooking oil	123.2	116.5	114.9	115.3	116.7	117.9	120.6	119.8	119.2	127.9
Soft drinks	122.3	125.5	125.7	124.9	127.9	127.6	127.4	126.3	126.6	125.5
Consumer finished goods less foods	115.3	118.7	120.8	122.0	121.8	122.1	122.6	123.2	123.5	123.0
Beverages, alcoholic	117.2	123.7	126.1	126.7	126.3	126.5	126.0	126.4	125.6	125.7
Apparel	117.5	119.6	122.2	122.0	123.1	123.2	123.2	123.2	122.9	123.5
Footwear	125.6	128.8	131.9	132.1	133.6	133.9	134.1	134.2	134.1	134.5
Tobacco products	221.4	249.7	275.3	283.4	292.2	292.2	296.0	296.7	290.2	287.3
Intermediate materials 4/	114.5	114.4	114.7	115.5	115.6	116.0	116.2	116.2	116.7	116.6
Materials for food manufacturing	117.9	115.3	113.9	114.8	112.8	113.5	114.6	115.7	115.1	116.6
Flour	103.6	96.8	109.3	107.0	110.0	109.1	110.4	107.4	106.2	105.7
Refined sugar 5/	122.7	121.6	120.0	120.0	117.6	118.3	118.7	118.5	117.4	118.1
Crude vegetable oils	115.8	103.0	97.1	96.8	101.3	103.1	104.1	104.1	100.0	114.9
Crude materials 6/	108.9	101.2	100.4	101.7	101.4	102.6	103.6	106.3	104.5	102.7
Foodstuffs & feedstuffs	113.1	105.5	105.1	105.0	106.0	108.3	110.1	112.1	107.3	107.7
Fruits & vegetables & nuts 7/	117.5	114.7	96.8	85.2	105.2	101.6	118.0	120.3	93.5	97.2
Grains	97.4	92.0	97.3	95.0	86.1	89.3	93.7	91.1	85.3	91.2
Livestock	115.6	107.9	104.7	103.7	110.0	112.6	113.0	112.8	109.8	105.0
Poultry, live	118.8	111.2	112.6	124.1	110.4	116.1	116.5	132.3	118.9	124.4
Fibers, plant & animal	117.8	115.1	89.8	102.0	89.5	94.2	91.5	93.3	90.5	90.8
Fluid milk	100.8	89.5	96.3	99.6	89.1	89.4	90.8	95.0	97.5	96.6
Oilseeds	112.1	106.4	107.5	109.2	106.7	108.3	112.2	114.2	109.6	127.9
Tobacco, leaf	95.8	101.1	101.0	90.5	110.0	108.7	97.6	91.8	91.8	91.8
Sugar, raw cane	119.2	113.7	112.1	111.0	109.7	112.2	113.9	111.1	112.4	114.2

1/ Commodities ready for sale to ultimate consumer. 2/ Includes all raw, intermediate, & processed foods (excludes soft drinks, alcoholic beverages, & manufactured animal feeds). 3/ New index beginning Dec. 1991. 4/ Commodities requiring further processing to become finished goods. 5/ All types & sizes of refined sugar. 6/ Products entering market for the first time that have not been manufactured at that point. 7/ Fresh & dried. R = revised.

Information contact: Ann Duncan (202) 219-0313.



# Farm-Retail Price Spreads

## Table 8.—Farm-Retail Price Spreads

	Annual			1992	1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July
<b>Market basket 1/</b>										
Retail cost (1982-84=100)	133.5	137.4	138.4	137.2	140.6	141.0	141.7	142.6	141.1	141.0
Farm value (1982-84=100)	113.1	106.1	103.4	103.8	103.9	108.3	108.7	109.1	105.3	104.1
Farm-retail spread (1982-84=100)	144.5	154.2	157.3	155.3	160.4	159.7	159.3	160.6	160.4	160.9
Farm value-retail cost (%)	29.7	27.0	26.2	26.5	25.9	26.4	26.9	26.8	28.1	25.8
<b>Meat products</b>										
Retail cost (1982-84=100)	128.5	132.5	130.7	130.0	132.1	133.1	133.8	134.7	134.9	135.5
Farm value (1982-84=100)	118.8	110.0	104.5	107.2	109.5	113.7	115.7	113.6	112.6	109.0
Farm-retail spread (1982-84=100)	140.4	155.8	157.5	153.4	155.3	153.0	152.4	158.4	157.8	162.7
Farm value-retail cost (%)	48.0	42.0	40.5	41.6	42.0	43.3	43.8	42.7	42.3	40.7
<b>Dairy products</b>										
Retail cost (1982-84=100)	126.5	125.1	128.5	128.3	128.8	128.8	128.0	128.0	129.8	130.2
Farm value (1982-84=100)	101.7	90.0	95.9	97.8	90.0	89.4	89.1	92.4	98.5	99.3
Farm-retail spread (1982-84=100)	149.5	157.5	158.6	156.4	164.6	165.1	163.9	160.8	160.5	158.7
Farm value-retail cost (%)	38.5	34.5	35.8	36.6	33.5	33.3	33.4	34.6	35.7	36.8
<b>Poultry</b>										
Retail cost (1982-84=100)	132.5	131.5	131.4	132.1	133.1	135.7	135.2	136.6	136.5	136.0
Farm value (1982-84=100)	107.6	102.5	104.0	110.1	103.0	105.8	108.2	115.4	111.3	113.7
Farm-retail spread (1982-84=100)	181.1	164.9	163.0	157.4	167.7	170.1	166.3	161.1	165.5	161.7
Farm value-retail cost (%)	43.5	41.7	42.4	44.6	41.4	41.7	42.8	45.2	43.6	44.7
<b>Eggs</b>										
Retail cost (1982-84=100)	124.1	121.2	108.3	104.7	115.6	120.3	126.9	114.9	116.4	115.1
Farm value (1982-84=100)	108.0	100.9	77.8	68.6	88.3	105.9	98.1	83.5	88.5	80.8
Farm-retail spread (1982-84=100)	153.2	157.6	163.2	169.8	164.6	148.2	178.6	171.3	168.5	178.7
Farm value-retail cost (%)	55.9	53.5	46.1	42.1	49.1	56.5	49.7	46.7	48.9	45.1
<b>Cereal &amp; bakery products</b>										
Retail cost (1982-84=100)	140.0	145.8	151.5	152.4	154.9	154.8	155.4	156.3	158.7	157.2
Farm value (1982-84=100)	90.5	85.3	94.7	90.9	91.2	90.9	91.2	88.0	83.5	84.2
Farm-retail spread (1982-84=100)	146.9	154.3	159.4	161.0	163.8	163.5	164.4	165.6	166.9	167.4
Farm value-retail cost (%)	7.9	7.2	7.7	7.3	7.2	7.2	7.2	8.9	6.5	6.8
<b>Fresh fruits</b>										
Retail cost (1982-84=100)	174.6	200.1	189.8	178.3	191.6	188.5	188.5	193.1	180.9	183.5
Farm value (1982-84=100)	128.3	174.4	122.5	117.2	132.2	132.2	132.5	132.8	133.4	116.3
Farm-retail spread (1982-84=100)	195.9	211.9	220.8	206.5	219.0	214.5	214.4	220.9	202.8	214.5
Farm value-retail cost (%)	23.2	27.5	20.4	20.8	21.8	22.2	22.2	21.7	23.3	20.0
<b>Fresh vegetables</b>										
Retail cost (1982-84=100)	151.1	154.4	157.9	148.1	171.1	173.7	179.3	189.6	167.1	155.8
Farm value (1982-84=100)	124.4	110.8	120.5	112.2	129.7	129.4	163.6	173.3	107.3	104.4
Farm-retail spread (1982-84=100)	164.9	176.8	177.2	166.8	192.4	196.5	187.4	198.0	197.8	182.2
Farm value-retail cost (%)	28.0	24.4	25.9	25.7	25.7	25.3	31.0	31.0	21.8	22.8
<b>Processed fruits &amp; vegetables</b>										
Retail cost (1982-84=100)	132.7	130.2	133.7	134.2	131.9	131.1	131.2	130.2	130.0	131.0
Farm value (1982-84=100)	144.0	120.6	129.0	129.3	105.8	104.9	102.7	102.2	101.4	101.3
Farm-retail spread (1982-84=100)	129.1	133.2	135.2	135.7	140.0	139.3	140.1	138.9	138.9	140.3
Farm value-retail cost (%)	25.8	22.0	22.9	22.9	19.1	19.0	18.6	18.7	18.6	18.4
<b>Fats &amp; oils</b>										
Retail cost (1982-84=100)	128.3	131.7	129.8	129.9	130.7	130.2	130.2	129.4	130.1	130.4
Farm value (1982-84=100)	107.1	98.0	93.2	89.2	99.7	98.4	101.0	101.1	101.6	114.3
Farm-retail spread (1982-84=100)	133.4	144.2	143.3	144.9	142.1	141.9	141.0	139.8	140.6	138.3
Farm value-retail cost (%)	22.8	20.0	19.3	18.5	20.6	20.3	20.9	21.0	21.0	23.6
	Annual			1992	1993					
	1990	1991	1992	Aug	Mar	Apr	May	June	July	Aug
<b>Beef, Choice</b>										
Retail price 2/ (cts./lb.)	281.0	288.3	264.6	280.1	295.5	299.1	304.2	297.9	296.7	290.9
Wholesale value 3/ (cts.)	189.6	182.5	179.6	175.8	191.7	193.5	195.3	185.2	175.9	179.4
Net farm value 4/ (cts.)	168.4	160.2	161.8	159.0	178.7	177.2	175.5	165.8	157.6	160.1
Farm-retail spread (cts.)	112.6	128.1	122.8	121.1	116.8	121.9	128.7	132.1	139.1	130.8
Wholesale-retail 5/ (cts.)	91.4	105.8	105.0	104.3	103.8	105.6	108.9	112.7	120.8	111.5
Farm-wholesale 6/ (cts.)	21.2	22.3	17.8	16.8	13.0	16.3	19.8	19.4	18.3	19.3
Farm value-retail price (%)	60	58	57	57	60	59	58	56	53	55
<b>Pork</b>										
Retail price 2/ (cts./lb.)	212.8	211.9	198.0	200.4	193.9	191.4	194.8	196.5	200.2	198.7
Wholesale value 3/ (cts.)	118.3	108.9	98.9	101.7	102.6	102.3	102.6	105.7	102.8	105.6
Net farm value 4/ (cts.)	87.2	78.4	67.8	71.6	74.8	71.9	74.9	77.0	73.6	76.9
Farm-retail spread (cts.)	125.4	133.5	130.2	128.8	119.3	119.5	119.9	119.5	126.6	121.8
Wholesale-retail 5/ (cts.)	94.3	103.0	99.1	98.7	91.3	89.1	92.2	90.8	97.4	92.9
Farm-wholesale 6/ (cts.)	31.1	30.6	31.1	30.1	28.0	30.4	27.7	28.7	29.2	28.9
Farm value-retail price (%)	41	37	34	36	38	38	38	39	37	39

1/ Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by BLS. The farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale & may include marketing charges such as grading & packing for some commodities. The farm-retail spread, the difference between the retail price & the farm value, represents charges for assembling, processing, transporting, distributing. 2/ Weighted average price of retail cuts from pork & choice yield grade 3 beef. Prices from BLS. 3/ Value of wholesale (boxed beef) & wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs & byproduct values. 4/ Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of byproducts. 5/ Charges for retailing & other marketing services such as wholesaling, & in-city transportation. 6/ Charges for livestock marketing, processing, & transportation.

Information contacts: Denis Dunham (202) 219-0870, Larry Duewer (202) 219-0712.

Table 9.—Price Indexes of Food Marketing Costs

(See the June 1993 issue.)

Information contact: Denis Dunham (202) 219-0870.

## Livestock &amp; Products

Table 10.—U.S. Meat Supply &amp; Use

	Beg. stocks	Produc- tion 1/	Imports	Total supply	Exports	Ending stocks	Consumption		Primary market price 3/
							Total	Per capita 2/	
Million pounds 4/							Pounds		
Beef									
1990	335	22,743	2,356	25,434	1,006	397	24,031	67.8	78.55
1991	397	22,917	2,406	25,720	1,188	419	24,113	68.8	74.28
1992	419	23,086	2,440	25,945	1,324	360	24,261	66.6	75.36
1993 F	360	23,216	2,410	25,986	1,300	350	24,336	68.0	76-78
Pork									
1990	313	15,354	898	16,565	238	296	16,031	49.8	55.32
1991	296	15,999	775	17,070	283	388	16,399	50.4	49.69
1992	388	17,234	645	18,267	407	385	17,475	53.1	43.03
1993 F	385	17,232	670	18,287	405	385	17,497	52.6	45-47
Veal 5/									
1990	4	327	0	331	0	6	325	1.1	96.51
1991	6	306	0	312	0	7	305	1.0	99.94
1992	7	310	0	317	0	5	312	1.0	89.38
1993 F	5	279	0	284	0	5	279	0.9	95-97
Lamb & mutton									
1990	8	363	41	412	8	8	397	1.4	55.54
1991	8	363	41	412	10	6	396	1.4	53.21
1992	6	348	50	404	8	8	388	1.4	61.00
1993 F	8	346	45	399	8	8	383	1.3	64-66
Total red meat									
1990	660	38,787	3,295	42,742	1,250	707	40,784	120.0	—
1991	707	39,585	3,223	43,515	1,481	820	41,214	119.6	—
1992	820	40,978	3,135	44,933	1,739	758	42,436	122.0	—
1993 F	758	41,073	3,125	44,956	1,713	748	42,495	120.8	—
Broilers									
1990	38	18,430	0	18,468	1,143	26	17,299	61.0	54.8
1991	26	19,591	0	19,617	1,281	36	18,320	63.7	52.0
1992	36	20,904	0	20,940	1,489	33	19,418	66.8	52.6
1993 F	33	22,027	0	22,059	1,745	33	20,281	69.1	53-55
Mature chicken									
1990	189	523	0	713	25	224	464	1.9	—
1991	224	508	0	732	28	274	429	1.7	—
1992	274	520	0	794	41	345	408	1.6	—
1993 F	345	512	0	857	60	350	447	1.7	—
Turkeys									
1990	236	4,514	0	4,750	54	308	4,390	17.8	63.2
1991	306	4,803	0	4,909	103	264	4,541	18.0	61.3
1992	264	4,777	0	5,041	171	272	4,599	18.0	59.9
1993 F	272	4,843	0	5,115	187	260	4,668	18.1	60-62
Total poultry									
1990	483	23,468	0	23,931	1,222	557	22,152	80.5	—
1991	557	24,701	0	25,258	1,392	575	23,291	83.4	—
1992	575	26,201	0	26,775	1,701	650	24,425	86.4	—
1993 F	650	27,381	0	28,031	1,992	643	25,396	88.9	—
Red meat & poultry									
1990	1,123	62,255	3,295	66,673	2,473	1,284	62,937	200.5	—
1991	1,264	64,286	3,223	68,772	2,873	1,395	64,504	202.9	—
1992	1,395	67,179	3,135	71,708	3,440	1,408	66,861	208.4	—
1993 F	1,408	68,454	3,125	72,986	3,705	1,391	67,890	209.7	—

1/ Total including farm production for red meats & federally inspected plus nonfederally inspected for poultry. 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was 70.5). 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Medium # 1, Nebraska Direct 1,100-1,300 lb.; pork: barrows & gilts, Iowa, Southern Minnesota; veal: farm price of calves; lamb & mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats & certified ready-to-cook for poultry. 5/ Beginning 1989 veal trade no longer reported separately. F = forecast. — = not available.

Information contacts: Polly Cochran or Maxine Davis (202) 219-0767.



Table 11.—U.S. Egg Supply &amp; Use

	Beg. stocks	Pro- duc- tion	Im- ports	Total supply	Ex- ports	Hatch- ing use	Ending stocks	Consumption		Wholesale price <sup>a</sup>
								Total	Per capita	
Million dozen										
									No.	Cts./doz.
1987	10.4	5,868.2	5.6	5,884.2	111.2	599.1	14.4	5,159.5	254.9	61.6
1988	14.4	5,784.2	5.3	5,803.9	141.8	605.9	15.2	5,041.0	246.9	62.1
1989	15.2	5,598.2	25.2	5,638.5	91.6	643.9	10.7	4,892.4	237.3	61.9
1990	10.7	5,665.6	9.1	5,685.3	100.5	678.5	11.6	4,894.7	235.0	62.2
1991	11.6	5,779.3	2.3	5,793.3	154.3	708.1	13.0	4,917.9	233.5	77.5
1992	13.0	5,862.7	4.3	5,899.9	157.0	728.4	13.5	5,001.0	235.0	65.4
1993 F	13.5	5,933.8	5.0	5,957.3	154.6	757.7	12.0	5,033.0	234.0	73-76

<sup>a</sup> Cartoned grade A large eggs, New York. F = forecast

Information contact: Maxine Davis (202) 219-0767.

Table 12.—U.S. Milk Supply & Use<sup>1/</sup>

	Production	Farm use	Commercial		Imports	Total commercial supply	CCC net removals	Commercial		All milk price 1/	CCC net removals	
			Farm marketings	Beg. stock				Ending stocks	Disappearance		Skim solids basis	Total solids basis 2/
			Billion pounds (milkfat basis)								\$/cwt	Billion pounds
1985	143.0	2.5	140.6	4.8	2.8	148.2	13.3	4.5	130.4	12.78	17.2	15.6
1986	143.1	2.4	140.7	4.5	2.7	147.9	10.8	4.1	133.0	12.51	14.3	12.9
1987	142.7	2.3	140.5	4.1	2.5	147.1	6.8	4.6	135.7	12.54	9.3	8.3
1988	145.2	2.2	142.9	4.6	2.4	149.9	9.1	4.3	136.5	12.26	5.5	6.9
1989	144.2	2.1	142.2	4.3	2.5	149.0	9.4	4.1	135.4	13.56	0.4	4.0
1990	148.3	2.0	146.3	4.1	2.7	153.1	9.0	5.1	138.9	13.68	1.6	4.6
1991	148.5	2.0	146.5	5.1	2.6	154.3	10.4	4.5	139.4	12.24	3.9	6.5
1992	151.7	1.9	149.8	4.5	2.5	156.7	10.1	4.7	142.0	13.09	2.4	5.4
1993 F	151.6	1.9	149.7	4.7	2.6	157.0	7.9	4.6	144.5	12.75	5.0	6.2

1/ Delivered to plants & dealers; does not reflect deductions. 2/ Arbitrarily weighted average of milkfat basis (40 percent) & skim solids basis (60 percent). F = forecast.

Information contact: Jim Miller (202) 219-0770.

Table 13.—Poultry &amp; Eggs

	Annual			1992 <sup>1</sup>	1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July
Broilers										
Federally inspected slaughter, certified (mil. lb.)	18,555.0	19,727.7	21,052.4	1,819.9	1,659.6	1,897.1	1,867.2	1,784.2	1,979.4	1,800.4
Wholesale price, 12-city (cts./lb.)	54.8	52.0	52.6	56.0	63.0	54.0	54.7	57.7	55.0	55.5
Price of grower feed (\$/ton)	218	208	208	213	205	209	208	210	208	208
Broiler-feed price ratio 1/	3.0	3.0	3.1	3.2	3.1	3.1	3.2	3.4	3.3	3.4
Stocks beginning of period (mil. lb.)	38.3	26.1	36.1	33.7	31.6	32.7	29.0	32.6	36.3	40.7
Broiler-type chicks hatched (mil.) 2/	6,324.4	6,616.5	6,830.9	586.0	538.4	611.9	590.4	624.3	610.7	614.3
Turkeys										
Federally inspected slaughter, certified (mil. lb.)	4,560.7	4,651.9	4,828.9	451.8	322.3	383.3	391.9	378.7	446.5	414.0
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts./lb.)	63.2	61.3	60.2	57.0	58.8	58.4	59.0	58.8	58.4	59.8
Price of turkey grower feed (\$/ton)	238	230	242	245	240	240	251	248	249	251
Turkey-feed price ratio 1/	3.2	3.3	3.1	3.1	2.9	3.1	3.0	3.1	3.0	3.1
Stocks beginning of period (mil. lb.)	235.9	306.4	294.1	580.1	314.7	359.8	359.2	424.4	474.0	556.1
Poults placed in U.S. (mil.)	304.9	308.1	307.8	29.3	25.3	27.5	28.6	27.9	28.4	28.6
Eggs										
Farm production (mil.)	67,987	69,352	70,592	5,905	5,421	6,054	5,850	5,998	5,803	5,977
Average number of layers (mil.)	270	275	278	275	282	281	281	280	280	281
Rate of lay (eggs per layer on farms)	251.7	252.4	253.9	21.5	19.2	21.5	20.8	21.4	20.7	21.3
Cartoned price, New York, Grade A large (cts./doz.) 3/	62.2	77.5	65.4	58.6	69.9	65.2	77.8	67.6	74.7	68.9
Price of laying feed (\$/ton)	200	192	199	200	198	199	201	200	201	202
Egg-feed price ratio 1/	7.0	6.8	5.7	5.2	6.2	7.1	6.9	6.3	6.5	5.7
Stocks, first of month										
Shell (mil. doz.)	0.36	0.45	0.63	0.90	0.38	0.36	0.45	0.18	0.18	0.21
Frozen (mil. doz.)	10.3	11.2	12.3	16.1	12.7	12.9	11.4	10.9	11.8	11.5
Replacement chicks hatched (mil.)	398	420	386	32.1	33.7	37.3	37.2	37.1	35.1	34.2

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks is currently reported for 15 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Maxine Davis (202) 219-0767.

Table 14.—Dairy

	Annual			1992	1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July
Milk prices, Minnesota-Wisconsin, 3.5% fat (\$/cwt) 1/	12.21	11.05	11.88	12.59	10.74	11.02	12.15	12.52	12.03	11.42
Wholesale prices										
Butter, grade A Chl. (cts./lb.)	102.1	99.3	82.5	76.8	75.3	75.3	75.3	75.3	78.2	73.5
Am. cheese, Wia. assembly pt. (cts./lb.)	136.7	124.4	131.9	141.8	118.6	124.3	140.8	141.8	133.7	126.3
Nonfat dry milk (cts./lb.) 2/	100.6	94.0	107.1	111.6	113.8	113.3	113.9	115.3	112.9	109.6
USDA net removals 3/										
Total milk equiv. (mil. lb.) 4/	9,017.2	10,425.0	9,978.3	403.0	1,539.1	1,236.8	762.7	1,186.3	717.4	277.9
Butter (mil. lb.)	400.3	442.8	440.4	16.7	67.1	53.8	33.3	52.1	31.1	11.3
Am. cheese (mil. lb.)	21.5	76.9	15.8	0.0	3.1	2.2	0.1	1.2	0.9	0.8
Nonfat dry milk (mil. lb.)	117.8	269.5	143.2	14.8	44.5	44.3	28.5	21.1	18.5	25.8
Milk										
Milk prod. 21 States (mil. lb.)	125,772	125,671	126,300	10,900	9,965	11,087	10,956	11,443	11,024	10,948
Milk per cow (lb.)	14,778	14,977	15,546	1,322	1,216	1,356	1,344	1,404	1,354	1,346
Number of milk cows (1,000)	8,512	8,391	8,253	8,247	8,196	8,178	8,163	8,148	8,144	8,134
U.S. milk production (mil. lb.)	148,314	148,477	151,747	7/ 12,844	7/ 11,829	7/ 13,161	7/ 12,978	7/ 13,555	7/ 13,056	7/ 12,901
Stock, beginning										
Total (mil. lb.)	9,036	13,359	15,841	21,050	15,410	15,396	16,327	17,393	18,098	19,107
Commercial (mil. lb.)	4,120	5,148	4,481	4,842	4,817	4,565	4,597	4,563	4,927	5,346
Government (mil. lb.)	4,916	8,213	11,379	16,208	10,593	10,831	11,730	12,830	13,171	13,761
Imports, total (mil. lb.)	2,690	2,625	2,524	220	135	243	224	244	208	—
Commercial disappearance (mil. lb.)	138,922	139,343	142,123	12,050	10,530	11,972	12,316	12,086	11,971	—
Butter										
Production (mil. lb.)	1,302.2	1,336.8	1,365.2	96.0	138.9	139.1	124.2	115.1	103.9	87.2
Stocks, beginning (mil. lb.)	256.2	416.1	539.4	755.6	495.4	497.0	625.0	565.2	582.3	589.3
Commercial disappearance (mil. lb.)	915.2	903.5	943.7	74.9	75.4	87.7	90.4	58.8	80.9	—
American cheese										
Production (mil. lb.)	2,894.2	2,768.9	2,938.5	254.9	222.9	236.1	254.8	277.7	266.2	259.5
Stocks, beginning (mil. lb.)	236.2	347.4	318.7	345.1	352.1	332.5	334.8	330.1	353.0	413.8
Commercial disappearance (mil. lb.)	2,784.4	2,756.7	2,901.1	229.6	238.8	238.6	261.6	250.2	208.9	—
Other cheese										
Production (mil. lb.)	3,167.0	3,250.0	3,551.7	288.9	266.0	307.9	297.9	294.0	288.7	281.2
Stocks, beginning (mil. lb.)	93.2	110.8	97.5	121.8	129.3	124.4	133.3	131.6	131.7	131.4
Commercial disappearance (mil. lb.)	3,426.4	3,539.2	3,795.4	304.9	284.2	323.7	323.6	320.2	311.3	—
Nonfat dry milk										
Production (mil. lb.)	879.2	877.5	872.1	73.4	83.8	69.1	90.7	103.6	95.2	88.4
Stocks, beginning (mil. lb.)	49.5	161.9	214.8	149.5	72.4	71.5	78.5	87.3	113.0	143.6
Commercial disappearance (mil. lb.)	697.6	662.7	714.8	44.6	38.1	18.2	53.3	56.1	46.2	—
Frozen dessert										
Production (mil. gal.) 5/	1,174.6	1,203.1	1,196.8	121.4	81.7	101.8	105.3	110.5	124.4	124.6
	Annual			1991	1992				1993	
	1990	1991	1992	IV	I	II	III	IV	I	II P
Milk production (mil. lb.)	148,314	148,477	151,747	36,270	37,989	39,077	37,515	37,166	37,763	39,573
Milk per cow (lb.)	14,642	14,860	15,423	3,865	3,852	3,971	3,818	3,782	3,862	4,064
No. of milk cows (1,000)	10,127	9,992	9,839	9,923	9,863	9,841	9,826	9,827	9,777	9,738
Milk-feed price ratio 6/	1.71	1.58	1.69	1.77	1.88	1.65	1.75	1.69	1.61	1.68
Returns over concentrate costs (\$/cwt milk) 6/	10.17	8.95	9.74	10.45	9.60	9.50	10.10	9.75	9.01	9.59

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area. 3/ Includes products exported through the Dairy Export Incentive Program (DEIP). 4/ Milk equivalent, fat basis. 5/ Hard ice cream, ice milk, & hard sherbet. 6/ Based on average milk price after adjustment for price support deductions. 7/ Estimated. — = not available.

Information contact: LaVerne T. Williams (202) 219-0770.

Table 15.—Wool

	Annual			1992				1993	
	1990	1991	1992	I	II	III	IV	I	II P
U.S. wool price, (cts./lb.) 1/	256	199	204	209	222	210	176	146	136
Imported wool price, (cts./lb.) 2/	287	187	210	250	233	203	189	150	137
U.S. mill consumption, scoured									
Apparel wool (1,000 lb.)	120,622	137,187	139,715	36,929	36,045	34,462	32,279	35,503	35,720
Carpet wool (1,000 lb.)	12,124	14,352	14,726	4,580	3,623	3,145	3,378	4,511	4,341

1/ Wool price delivered at U.S. mills, clean basis. Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" & up. 2/ Wool price, Charleston, SC warehouse, clean basis. Australian 80/82's, type 64A (24 micron). Duty since 1982 has been 10.0 cents. P = preliminary.

Information contact: John Lawler (202) 219-0840.



Table 16.—Meat Animals

	Annual			1992	1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July
<b>Cattle on feed (7 States)</b>										
Number on feed (1,000 head) 1/	8,378	8,992	8,397	7,337	9,050	8,761	8,701	8,339	8,343	7,923
Placed on feed (1,000 head)	21,030	19,704	20,498	1,432	1,282	1,816	1,316	1,781	1,410	1,483
Marketings (1,000 head)	19,198	19,066	18,623	1,684	1,441	1,565	1,552	1,846	1,723	1,672
Other disappearance (1,000 head)	1,218	1,233	1,199	85	110	111	126	131	107	81
<b>Beef steer—corn price ratio, Omaha 2/</b>	32.8	31.6	33.3	32.2	40.0	38.7	37.8	37.5	36.8	31.4
<b>Hog—corn price ratio, Omaha 2/</b>	23.1	21.1	19.0	20.0	22.2	22.1	20.9	21.7	23.2	20.1
<b>Market prices (\$/cwt)</b>										
<b>Slaughter cattle</b>										
Choice steers, Omaha, 1,000–1,100 lb.	77.40	73.83	74.85	73.05	80.38	82.45	81.47	80.97	76.13	72.22
Choice steers, Neb. Direct, 1,100–1,300 lb.	78.58	74.28	75.36	73.23	80.34	82.60	82.25	80.39	76.70	73.80
Boning utility cows, Sioux Falls	53.60	50.31	44.84	44.28	47.25	49.50	49.15	49.00	49.44	50.28
<b>Feeder cattle</b>										
Medium no. 1, Oklahoma City 600–700 lb.	92.15	92.74	85.57	87.46	89.06	90.49	92.82	93.78	96.33	92.98
<b>Slaughter hogs</b>										
Barrows & gilts, Iowa, S. Minn.	55.32	49.69	43.05	45.22	44.81	47.51	46.09	47.69	48.98	46.71
<b>Feeder pigs</b>										
S. Mo. 40–50 lb. (per head)	51.46	39.84	31.71	28.20	48.17	51.38	49.35	43.88	38.65	36.69
<b>Slaughter sheep &amp; lambs</b>										
Lambs, Choice, San Angelo	55.54	53.21	81.00	58.17	73.38	75.50	71.25	62.50	57.75	57.00
Ewes, Good, San Angelo	35.21	31.98	35.39	33.57	43.44	46.80	31.95	36.29	38.00	38.17
<b>Feeder lambs</b>										
Choice, San Angelo	62.95	53.54	62.09	56.43	76.09	84.10	71.45	62.50	59.80	58.58
<b>Wholesale meat prices, Midwest</b>										
Boxed beef cut-out value	123.21	118.31	116.73	112.79	122.13	124.80	126.12	127.19	120.52	114.48
Canner & cutter cow beef	99.96	99.42	93.85	94.29	97.23	98.13	95.55	98.38	98.88	101.69
Pork loins, 14–18 lb. 3/	117.52	108.39	101.41	108.22	100.05	100.81	107.61	111.16	122.29	113.40
Pork bellies, 12–14 lb.	53.80	47.79	30.39	32.77	33.22	41.28	41.19	39.86	36.24	44.51
Hams, skinned, 17–20 lb.	84.87	75.88	67.42	67.16	68.83	73.78	63.81	63.09	63.59	64.94
<b>All fresh beef retail price 4/</b>	262.48	271.05	266.87	265.83	272.48	273.21	275.96	276.90	274.03	274.99
<b>Commercial slaughter (1,000 head) 5/</b>										
<b>Cattle</b>	33,241	32,690	32,873	2,860	2,468	2,775	2,681	2,775	3,013	2,864
Steers	16,587	16,728	17,135	1,571	1,264	1,434	1,409	1,504	1,611	1,494
Heifers	10,090	9,725	9,236	796	690	747	721	768	868	844
Cows	5,920	5,623	5,846	435	468	542	499	452	473	468
Bulls & stags	644	614	653	58	46	52	52	53	61	58
Calves	1,789	1,436	1,371	109	99	119	98	85	94	93
Sheep & lambs	5,654	5,722	5,493	443	395	489	482	411	478	409
Hogs	85,138	88,169	94,888	7,643	7,092	8,146	8,002	7,145	7,507	7,177
<b>Commercial production (mil. lb.)</b>										
Beef	22,634	22,800	22,968	2,015	1,677	1,858	1,782	1,857	2,051	1,983
Veal	316	296	299	24	21	26	22	20	22	22
Lamb & mutton	358	358	343	27	25	32	30	27	31	28
Pork	15,300	15,948	17,185	1,375	1,290	1,481	1,465	1,309	1,377	1,311

	Annual			1992				1993		
	1990	1991	1992	I	II	III	IV	I	II	III
<b>Cattle on feed (13 States)</b>										
Number on feed (1,000 head) 1/	9,943	10,827	10,135	10,135	9,693	8,847	8,920	10,884	10,452	9,493
Placed on feed (1,000 head)	24,803	23,208	24,248	5,403	5,273	6,107	7,483	5,321	5,284	—
Marketings (1,000 head)	22,526	22,383	22,061	5,441	5,675	5,766	5,179	5,314	5,783	* 5,950
Other disappearance (1,000 head)	1,393	1,517	1,436	404	444	288	320	439	460	—
<b>Hogs &amp; pigs (10 States) 6/</b>										
Inventory (1,000 head) 1/	42,200	42,900	45,735	45,735	44,800	47,255	49,175	47,140	46,130	47,700
Breeding (1,000 head) 1/	5,275	5,257	5,810	5,610	5,555	5,845	5,840	5,735	5,730	5,765
Market (1,000 head) 1/	36,925	37,643	40,125	40,125	39,245	41,410	43,335	41,405	40,400	41,935
Farrowings (1,000 head)	8,960	9,516	10,202	2,296	2,663	2,521	2,458	2,315	2,630	* 2,421
Pig crop (1,000 head)	70,589	75,330	82,497	18,532	21,570	20,559	19,829	18,954	21,362	—

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Prior to 1984, 8–14 lb.; 1984 & 1985, 14–17 lb; beginning 1986, 14–18 lb. 4/ New series estimating the composite price of all beef grades & ground beef sold by retail stores. This new series is in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 5/ Classes estimated. 6/ Quarters are Dec. of preceding year—Feb. (I), Mar.—May (II), June–Aug. (III), & Sept.–Nov. (IV). May not add to NASS totals due to rounding. — = not available. \* Intentions.

Information contact: Polly Cochran (202) 219-0767.

## Crops &amp; Products

Table 17.—Supply & Utilization<sup>1,2</sup>

	Area		Harvested	Yield	Production	Total supply 4/	Feed and resid- ual	Other domes- tic use	Ex- ports	Total use	Ending stocks	Farm price 5/
	Set aside 3/	Planted										
	Mil. acres		Bu./acre		Mil. bu.		Mil. bu.				\$/bu.	
Wheat												
1988/89	22.5	65.5	53.2	34.1	1,812 <sup>2/</sup>	3,098	150	829	1,415	2,394	702	3.72
1989/90	9.6	76.8	62.2	32.7	2,037	2,762	144	849	1,232	2,225	536	3.72
1990/91	7.5	77.2	69.3	39.5	2,738	3,309	499	875	1,068	2,443	868	2.61
1991/92*	16.9	69.9	57.7	34.3	1,981	2,888	254	863	1,280	2,416	472	3.00
1992/93*	7.3	72.3	62.4	39.4	2,459	3,001	196	923	1,354	2,472	529	3.24
1993/94*	5.0	72.1	63.9	39.0	2,493	3,097	325	939	1,125	2,389	708	2.70-3.00
Rice												
	Mil. acres		Lb./acre		Mil. cwt (rough equiv.)						\$/cwt	
1988/89	1.09	2.93	2.90	5,514	159.9	195.1	—	6/ 82.5	85.9	168.4	26.7	0.83
1989/90	1.18	2.73	2.69	5,749	154.5	185.6	—	6/ 82.1	77.2	159.3	26.4	7.35
1990/91	1.02	2.90	2.82	5,529	156.1	187.2	—	6/ 91.7	70.9	162.7	24.8	6.70
1991/92*	0.9	2.88	2.76	5,674	157.5	187.3	—	6/ 93.7	66.4	159.9	27.4	7.68
1992/93*	0.4	3.17	3.13	5,722	179.1	212.4	—	6/ 97.5	79.0	173.2	39.4	6.93
1993/94*	0.6	3.02	2.97	5,687	168.8	214.8	—	6/ 100.5	82.0	181.5	33.3	4.75-8.25
Corn												
	Mil. acres		Bu./acre		Mil. bu.						\$/bu.	
1988/89	20.5	87.7	58.3	84.6	4,929	9,191	3,941	1,293	2,028	7,260	1,930	2.54
1989/90	10.8	72.2	64.7	116.3	7,525	9,458	4,389	1,356	2,368	8,113	1,344	2.36
1990/91	10.7	74.2	67.0	118.5	7,934	9,282	4,663	1,373	1,725	7,761	1,621	2.28
1991/92*	7.4	76.0	68.8	108.8	7,475	9,016	4,878	1,454	1,584	7,916	1,100	2.37
1992/93*	5.3	79.3	72.1	131.4	9,479	10,586	5,250	1,510	1,675	8,435	2,150	2.07
1993/94*	9.0	73.7	63.9	113.1	7,229	9,390	5,100	1,650	1,400	8,050	1,340	2.15-2.55
Sorghum												
	Mil. acres		Bu./acre		Mil. bu.						\$/bu.	
1988/89	3.9	10.3	9.0	63.8	577	1,239	466	22	311	800	440	2.27
1989/90	3.3	12.6	11.1	55.4	615	1,055	517	15	303	835	220	2.10
1990/91	3.3	10.5	9.1	63.1	573	793	410	9	232	651	143	2.12
1991/92*	2.5	11.1	9.9	59.3	585	727	374	9	292	674	53	2.25
1992/93*	2.0	13.3	12.2	72.8	684	937	476	8	275	758	180	1.99
1993/94*	2.0	10.7	9.7	66.5	649	828	450	8	275	733	96	1.95-2.35
Barley												
	Mil. acres		Bu./acre		Mil. bu.						\$/bu.	
1988/89	2.8	9.8	7.6	38.0	290	622	171	175	79	425	196	2.80
1989/90	2.3	9.1	8.3	48.0	404	614	193	175	84	453	161	2.42
1990/91	2.9	8.2	7.5	56.1	422	596	205	176	81	461	135	2.14
1991/92*	2.2	8.9	8.4	55.2	464	624	230	171	94	496	129	2.10
1992/93*	2.3	7.8	7.3	62.4	456	596	199	165	80	445	152	2.05
1993/94*	2.2	7.9	7.5	57.8	436	612	225	165	85	475	137	1.95-2.35
Oats												
	Mil. acres		Bu./acre		Mil. bu.						\$/bu.	
1988/89	0.3	13.9	5.5	39.3	218	392	194	100	1	294	98	2.61
1989/90	0.4	12.1	6.9	54.3	374	538	266	115	1	381	157	1.49
1990/91	0.2	10.4	5.9	60.1	358	578	266	120	1	407	171	1.14
1991/92*	0.6	8.7	4.8	50.7	243	489	235	125	2	362	128	1.20
1992/93*	0.7	8.0	4.5	65.6	295	477	233	125	6	364	113	1.32
1993/94*	0.8	8.1	4.1	60.7	250	428	205	125	5	335	93	1.25-1.65
Soybeans												
	Mil. acres		Bu./acre		Mil. bu.						\$/bu.	
1988/89	0	58.8	57.4	27.0	1,549	1,855	7/ 88	1,058	527	1,673	182	7.42
1989/90	0	60.8	59.5	32.3	1,924	2,109	7/ 101	1,146	823	1,870	239	5.69
1990/91	0	57.8	56.5	34.1	1,926	2,168	7/ 95	1,187	557	1,839	329	5.74
1991/92*	0	59.2	58.0	34.2	1,987	2,319	7/ 103	1,254	684	2,041	278	5.58
1992/93*	0	59.3	58.4	37.0	2,197	2,477	7/ 132	1,280	775	2,187	290	5.60
1993/94*	0	59.5	56.2	34.0	1,909	2,204	104	1,240	645	1,989	215	6.00-7.00
Soybean oil												
					Mil. lbs.						8/ Cts./lb.	
1988/89	—	—	—	—	11,737	13,967	—	10,591	1,661	12,252	1,715	21.10
1989/90	—	—	—	—	13,004	14,741	—	12,083	1,353	13,436	1,305	22.30
1990/91	—	—	—	—	13,408	14,730	—	12,164	780	12,944	1,786	21.00
1991/92*	—	—	—	—	14,345	16,132	—	12,245	1,648	13,893	2,239	19.10
1992/93*	—	—	—	—	13,734	15,975	—	12,750	1,500	14,250	1,725	21.50
1993/94*	—	—	—	—	14,005	15,760	—	12,850	1,500	14,350	1,400	22.5-28.0
Soybean meal												
					1,000 tons						9/ \$/ton	
1988/89	—	—	—	—	24,943	25,100	—	19,657	5,270	24,927	173	252.4
1989/90	—	—	—	—	27,719	27,900	—	22,263	5,319	27,582	318	186.5
1990/91	—	—	—	—	28,325	28,688	—	22,934	5,469	28,403	285	181.4
1991/92*	—	—	—	—	29,831	30,183	—	23,008	8,945	29,953	230	189.2
1992/93*	—	—	—	—	30,210	30,550	—	24,100	8,150	30,250	300	195.0
1993/94*	—	—	—	—	29,435	29,850	—	24,100	6,450	29,550	300	185-215

See footnotes at end of table.



Table 17.—Supply &amp; Utilization, continued

	Area		Harvested	Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Ex-ports	Total use	Ending Stocks	Farm Price 5/
	Set Aside 3/	Planted										
	Mil. acres			Lb./acre			Mil. bales					Cts./lb.
Cotton 10/												
1988/89	2.2	12.5	11.9	819	15.4	21.2	—	7.8	8.1	13.9	7.1	56.60
1989/90	3.5	10.6	9.5	614	12.2	19.3	—	8.8	7.7	16.5	3.0	66.20
1990/91	2.0	12.3	11.7	634	15.5	18.5	—	8.7	7.8	16.5	2.3	67.10
1991/92*	1.2	14.1	13.0	652	17.8	20.0	—	9.6	6.7	16.3	3.7	58.10
1992/93*	1.7	13.2	11.1	699	16.2	19.9	—	10.3	5.2	15.5	4.7 11/	54.60
1993/94*	1.4	13.7	13.3	645	17.9	22.5	—	10.3	6.3	16.6	6.0 12/	

\* September 9, 1993 Supply & Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, & oats; August 1 for cotton & rice; September 1 for soybeans, corn, & sorghum; October 1 for soybean meal & soybean oil. 2/ Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2204.622 pounds. 36,7437 bushels of wheat or soybeans, 39,3679 bushels of corn or sorghum, 45,9296 bushels of barley, 68,6944 bushels of oats, 22,046 cwt of rice, & 4 59 480-pound bales of cotton. 3/ Includes diversion, acreage reduction, 50-92, & 0-92 programs. 4/ 92 & 60/92 set-aside includes idled acreage & acreage planted to minor oilseeds, sesame, and crambe. 4/ Includes imports. 5/ Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding & Government purchases. 6/ Residual included in domestic use. 7/ Includes seed. 8/ Simple average of crude soybean oil, Decatur. 9/ Simple average of 48 percent, Decatur. 10/ Upland & extra long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply & use estimates & changes in ending stocks. 11/ Weighted average for August 1-April 1; not a projection for the marketing year. 12/ USDA is prohibited from publishing cotton price projections. — = not available or not applicable.

Note: Set-aside data for 1993 are from June 15 sign-up report.

Information contact: Commodity Economics Division, Crops Branch (202) 219-0840.

Table 18.—Cash Prices, Selected U.S. Commodities

	Marketing year 1/				1992	1993				
	1988/89	1989/90	1990/91	1991/92	July	Mar	Apr	May	June	July
Wheat, No. 1 HRW, Kansas City (\$/bu.) 2/	4.17	4.22	2.94	3.77	3.62	3.74	3.69	3.51	3.33	3.38
Wheat, DNS, Minneapolis (\$/bu.) 3/	4.36	4.16	3.06	3.82	4.04	3.87	3.80	3.71	3.96	4.80
Rice, S.W. La. (\$/cwt) 4/	14.85	15.55	15.25	16.48	15.50	12.60	12.15	11.80	11.75	12.38
Corn, no. 2 yellow, 30 day, Chicago (\$/bu.)	2.68	2.54	2.41	2.52	2.37	2.23	2.32	2.29	2.20	2.38
Sorghum, no. 2 yellow, Kansas City (\$/cwt)	4.17	4.21	4.08	4.36	4.05	3.70	3.72	3.82	3.58	3.99
Barley, feed, Duluth (\$/bu.) 5/	2.32	2.20	2.13	2.17	2.15	2.12	2.12	2.05	1.99	1.96
Barley, malting, Minneapolis (\$/bu.)	4.11	3.28	2.42	2.38	2.59	2.33	2.34	2.34	2.30	2.27
U.S. price, SLM, 1-1/16 in. (cts./lb.) 6/	57.7	69.8	74.8	59.7	60.9	56.5	56.2	56.4	64.4	54.4
Northern Europe prices index (cts./lb.) 7/	66.4	82.3	82.9	62.9	65.2	61.4	60.9	60.0	58.5	58.0
U.S. M 1-3/32 in. (cts./lb.) 8/	69.2	83.6	88.2	66.3	71.3	66.6	66.3	65.1	63.0	62.9
Soybeans, no. 1 yellow, 30 day, Chicago (\$/bu.)	7.41	5.86	6.78	5.75	5.65	5.59	5.88	5.99	5.99	6.99
Soybean oil, crude, Decatur (cts./lb.)	21.10	22.30	21.00	19.10	18.70	21.00	21.24	20.15	21.30	23.96
Soybean meal, 48% protein, Decatur (\$/ton) 9/	252.40	186.60	181.40	189.20	186.75	183.60	187.40	187.40	223.00	229.90

1/ Beginning June 1 for wheat & barley; Aug. 1 for rice & cotton; Sept. 1 for corn, sorghum & soybeans; Oct. 1 for soybean meal & oil. 2/ Ordinary protein. 3/ 14% protein. 4/ Long grain, milled basis. 5/ Beginning Mar. 1987 reporting point changed from Minneapolis to Duluth. 6/ Average spot market. 7/ Liverpool Collocl "A" index; average of five lowest prices of 13 selected growths. 8/ Memphis territory growths. 9/ Note change to 48% protein.

Information contacts: Wheat, rice, & feed grains, Jenny Gonzales (202) 219-0840; Cotton, Les Meyer (202) 219-0840; Soybeans, Brenda Toland, (202) 219-0840.

Table 19.—Farm Programs, Price Supports, Participation &amp; Payment Rates

	Target price	Basic loan rate	Findley or announced loan rate 1/	Payment rates		Effective base acres 2/	Program 3/	Participation rate 4/	
				Paid land diversion					
				Total deficiency	Mandatory				Optional
				\$/bu.		Mil. acres	Percent of base	Percent of base	
Wheat									
1987/88	4.38	2.85	2.28	1.81	—	—	27.5/0/0	88	
1988/89	4.23	2.76	2.21	0.69	—	—	27.5/0/0	86	
1989/90	4.10	2.68	2.06	0.32	—	—	10/0/0	78	
1990/91 5/	4.00	2.44	1.85	1.28	—	—	6/ 5/0/0	83	
1991/92	4.00	2.52	2.04	*1.35	—	—	15/0/0	85	
1992/93	4.00	2.58	2.21	**0.81	—	—	5/0/0	83	
1993/94	4.00	2.86	2.45	***1.05	—	—	0/0/0	87	
1994/95	—	—	—	—	—	—	0/0/0	—	
Rice									
				\$/cwt					
1987/88	11.08	6.84	7/ 6.15	4.82	—	—	4.2	35/0/0	96
1988/89	11.15	6.83	7/ 6.50	4.31	—	—	4.2	25/0/0	94
1989/90	10.80	6.50	7/ 6.00	3.56	—	—	4.2	25/0/0	94
1990/91 5/	10.71	6.50	7/ 5.40	4.16	—	—	4.2	20/0/0	95
1991/92	10.71	6.50	7/ 6.85	3.07	—	—	4.2	5/0/0	95
1992/93	10.71	6.50	—	**4.21	—	—	4.1	0/0/0	96
1993/94	10.71	6.50	—	***4.21	—	—	4.1	5/0/0	96
Corn									
				\$/bu.					
1987/88	3.03	2.28	1.82	1.09	—	2.00	81.5	20/0/15	90
1988/89	2.93	2.21	1.77	0.36	—	1.75	82.9	20/0/10	87
1989/90	2.84	2.06	1.65	0.58	—	—	82.7	10/0/0	79
1990/91 5/	2.75	1.96	1.57	0.51	—	—	82.6	10/0/0	78
1991/92	2.75	1.89	1.62	0.41	—	—	82.7	7.5/0/0	77
1992/93	2.75	2.01	1.72	**0.73	—	—	82.1	5/0/0	78
1993/94	2.75	1.99	1.72	***0.72	—	—	81.9	10/0/0	81
Sorghum									
				\$/bu.					
1987/88	2.88	2.17	1.74	1.14	—	1.80	17.4	8/ 20/0/15	84
1988/89	2.78	2.10	1.68	0.48	—	1.65	16.8	20/0/10	82
1989/90	2.70	1.96	1.57	0.86	—	—	16.2	10/0/0	71
1990/91 5/	2.61	1.86	1.49	0.56	—	—	15.4	10/0/0	70
1991/92	2.61	1.80	1.54	0.37	—	—	13.5	7.5/0/0	77
1992/93	2.61	1.91	1.63	**0.70	—	—	13.6	5/0/0	79
1993/94	2.61	1.89	1.63	***0.70	—	—	13.5	5/0/0	81
Barley									
				\$/bu.					
1987/88	2.60	1.88	1.49	0.79	—	1.60	12.5	8/ 20/0/15	85
1988/89	2.51	1.80	1.44	0.00	—	1.40	12.5	20/0/10	79
1989/90	2.44	1.68	1.34	0.00	—	—	12.3	10/0/0	67
1990/91 5/	2.36	1.60	1.28	0.20	—	—	11.9	10/0/0	68
1991/92	2.36	1.54	1.32	0.82	—	—	11.5	7.5/0/0	76
1992/93	2.36	1.64	1.40	**0.56	—	—	11.1	5/0/0	75
1993/94	2.36	1.62	1.40	***0.52	—	—	10.8	0/0/0	82
Oats									
				\$/bu.					
1987/88	1.60	1.17	0.94	0.20	—	0.80	8.4	8/ 20/0/15	45
1988/89	1.55	1.14	0.91	0.00	—	—	7.9	5/0/0	30
1989/90	1.50	1.06	0.85	0.00	—	—	7.6	5/0/0	18
1990/91 5/	1.45	1.01	0.81	0.32	—	—	7.5	5/0/0	09
1991/92	1.45	0.97	0.83	0.35	—	—	7.3	0/0/0	38
1992/93	1.45	1.03	0.88	**0.17	—	—	7.2	0/0/0	40
1993/94	1.45	1.02	0.88	***0.15	—	—	7.1	0/0/0	46
Soybeans 9/									
				\$/bu.					
1987/88	—	—	4.77	—	—	—	—	—	—
1988/89	—	—	4.77	—	—	—	—	—	—
1989/90	—	—	4.53	—	—	—	—	10/ 10/25	—
1990/91 5/	—	—	4.50	—	—	—	—	10/ 0/25	—
1991/92	—	—	5.02	—	—	—	—	10/ 0/25	—
1992/93	—	—	5.02	—	—	—	—	10/ 0/25	—
1993/94	—	—	5.02	—	—	—	—	10/ 0/25	—
Upland cotton									
				Cts./lb.					
1987/88	79.4	52.25	11/ 52.25	17.3	—	—	14.5	25/0/0	93
1988/89	75.9	51.80	11/ 51.80	10.4	—	—	14.5	12.5/0/0	89
1989/90	73.4	50.00	11/ 50.00	13.1	—	—	14.6	25/0/0	89
1990/91 5/	72.9	50.27	11/ 50.27	7.3	—	—	14.4	12.5/0/0	86
1991/92 12/	72.9	50.77	11/ 47.23	10.1	—	—	14.6	5/0/0	84
1992/93	72.9	52.35	11/ —	**20.3	—	—	14.9	10/0/0	89
1993/94	72.9	52.35	11/ —	***20.55	—	—	15.1	7.5/0/0	90

1/ There are no Findley loan rates for rice or cotton. See footnotes 7/ & 11/. 2/ National effective crop acreage base as determined by ASCS. Net of CRP. 3/ Program requirements for participating producers (mandatory acreage reduction program/mandatory paid land diversion/optional paid land diversion). Acres idled must be devoted to a conserving use to receive program benefits. 4/ Percentage of effective base acres enrolled in acreage reduction programs. 5/ Payments & loans were reduced by 1.4 percent in 1990/91 due to Gramm-Rudman-Hollings. Budget Reconciliation Act reductions to deficiency payments rates were also in effect in that year. Data do not include these reductions. 6/ Under 1990 modified contracts, participating producers plant up to 105 percent of their wheat base acres. For every acre planted above 95 percent of base, the acreage used to compute deficiency payments was cut by 1 acre. 7/ A marketing loan has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). However, loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to market-year average loan repayment rates. 8/ The sorghum, oats, & barley programs are the same as for corn except as indicated. 9/ There are no target prices, base acres, acreage reduction programs, or deficiency payment rates for soybeans. 10/ Nominal percentage of program crop base acres permitted to shift into soybeans without loss of base. 11/ A marketing loan has been in effect for cotton since 1986/87. In 1987/88 & after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average loan repayment rates. 12/ A marketing certificate program was implemented on Aug. 1, 1991. — = not available.

\* For wheat, the 1991/92 rate is the total deficiency payment rate for the "regular" program. For the winter wheat option, the rate is \$1.25.  
 \*\* For wheat, corn, sorghum, barley, and oats, regular deficiency payment rate based on the 5-month price. For rice and upland cotton, total deficiency payment rate.  
 \*\*\* Estimated total deficiency payment rate. Minimum guaranteed payment rate for 0/92 (wheat & feed grains) & 50/92 (rice and upland cotton) programs. Sign-up for 1993 programs was March 1–April 30, 1993.

Note: 1993 effective base acres and participation rates are from June 15 signup report.

Information contact: Commodity Economics Division, Crops Branch (202) 219-0840.



Table 20.—Fruit

	1984	1985	1986	1987	1988	1989	1990	1991	1992 P
Citrus 1/ Production (1,000 ton)	10,832	10,525	11,058	11,993	12,761	13,186	10,880	11,285	12,449
Per capita consumpt. (lbs.) 2/	22.5	21.5	24.2	23.9	25.4	23.5	21.4	19.1	24.3
Noncitrus 3/ Production (1,000 tons)	14,301	14,191	13,874	16,011	15,693	16,365	15,657	15,750	17,142
Per capita consumpt. (lbs.) 2/	66.2	65.1	68.7	73.4	71.7	73.0	70.8	70.8	74.4
	1992		1993						
	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
F.o.b. shipping point prices									
Apples (\$/carton) 4/	14.48	13.60	14.50	12.33	10.66	11.33	11.50	11.50	11.50
Pears (\$/box) 5/	13.54	13.88	16.00	16.00	16.00	16.08	16.28	18.28	—
Grower prices									
Oranges (\$/box) 6/	3.80	2.90	2.66	2.39	2.11	3.23	3.65	3.89	4.10
Grapefruit (\$/box) 6/	4.11	4.66	3.00	2.42	1.48	2.13	1.62	0.98	0.14
Stocks, ending									
Fresh apples (mil. lbs.)	4,988.3	4,077.3	3,433.1	2,769.3	2,011.1	1,341.5	895.1	488.9	201.0
Fresh pears (mil. lbs.)	276.7	223.4	174.2	128.1	81.7	50.8	23.3	1.6	7.1
Frozen fruits (mil. lbs.)	1,008.2	888.4	823.3	842.1	744.8	690.3	661.6	710.3	845.7
Frozen orange juice (mil. lbs.)	638.0	892.9	1,135.9	1,289.4	1,283.7	1,440.9	1,462.3	1,351.8	1,112.5

1/ 1992 indicated 1991/92 season. 2/ Fresh per capita consumption. 3/ Calendar year. 4/ Red delicious, Washington, extra fancy, carton tray pack, 125's. 5/ D'Anjou, Washington, standard box wrapped, U.S. no. 1, 135's. 6/ U.S. equivalent on-tree returns. P = preliminary. — = not available.

Information contact: Wynne Napper (202) 219-0884.

Table 21.—Vegetables

	Calendar year									
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 P
Production										
Total vegetables (1,000 cwt)	403,509	456,334	453,030	448,829	478,381	468,779	542,437	561,704	564,582	534,951
Fresh (1,000 cwt) 1/ 3/	185,782	201,817	203,649	203,165	220,539	228,397	239,281	239,104	229,509	238,140
Processed (tons) 2/ 3/	10,886,350	12,725,880	12,474,040	12,273,200	12,892,100	12,019,110	15,157,790	16,130,020	16,753,820	14,940,550
Mushrooms (1,000 lbs.) 4/	561,531	595,881	587,958	614,393	631,819	667,759	714,992	749,151	746,832	776,357
Potatoes (1,000 cwt)	333,726	362,039	406,609	381,743	369,320	356,438	370,444	402,110	417,622	411,636
Sweetpotatoes (1,000 cwt)	12,083	12,902	14,573	12,368	11,811	10,945	11,358	12,594	11,203	11,760
Dry edible beans (1,000 cwt)	15,520	21,070	22,298	22,960	26,031	19,253	23,729	32,379	33,765	22,047
	1992				1993					
	Apr	May	Jun	July	Feb	Mar	Apr	May	Jun	July
Shipments (1,000 cwt)										
Fresh	26,955	28,050	29,056	22,410	18,977	24,099	18,956	25,574	36,353	19,412
Iceberg lettuce	5,194	5,274	4,811	4,850	4,172	5,054	3,670	5,031	5,316	3,715
Tomatoes, all	3,281	3,554	3,499	2,957	3,109	3,885	2,665	2,540	4,229	2,688
Dry-bulb onions	3,406	2,752	2,786	2,648	2,747	3,390	2,448	2,989	3,720	2,877
Other 5/	15,074	16,470	17,960	11,955	8,949	11,770	10,073	15,014	23,088	10,132
Potatoes, all	21,011	17,628	12,885	9,851	11,180	16,545	18,489	17,946	14,284	9,391
Sweetpotatoes	397	212	190	154	270	488	334	218	244	178

1/ Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes. 2/ Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, & cauliflower. 3/ Asparagus & cucumber estimates were not available for 1982 & 1983. 4/ Fresh & processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1 - June 30. 5/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, squash, cantaloupes, honeydews, & watermelons. P = preliminary.

Information contacts: Gary Lucier or John Love (202) 219-0884.

Table 22.—Other Commodities

	Annual					1992			1993	
	1988	1989	1990	1991	1992	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June
Sugar										
Production 1/	7,067	6,841	6,334	7,133	7,501	716	722	3,929	2,351	825
Deliveries 1/	8,186	8,340	8,661	8,704	8,920	2,208	2,409	2,312	2,067	2,201
Stocks, ending 1/	3,132	2,947	2,729	3,039	3,220	2,757	1,451	3,225	3,904	3,014
Coffee										
Composite green price N.Y. (cts./lb.)	119.59	95.17	76.93	70.09	55.30	51.72	48.36	61.94	60.48	55.07
Imports, green bean equiv. (mil. lbs.) 2/	2,072	2,685	2,715	2,553	2,989	720	704	705	757	598
	Annual				1992	1993				
	1990	1991	1992	Apr	Nov	Dec	Jan	Feb	Mar	Apr
Tobacco										
Prices at auctions 3/										
Flue-cured (\$/lb.)	167.3	172.3	—	—	172.7	—	—	—	—	—
Burley (\$/lb.)	175.3	178.8	—	—	182.7	182.5	180.0	178.0	173.0	—
Domestic consumption 4/										
Cigarettes (bil.)	523.1	516.3	509.5	43.6	44.2	38.4	31.9	39.2	51.4	37.8
Large cigars (mil.)	2,343.5	2,231.9	2,217.1	181.7	189.6	171.7	125.1	141.1	178.8	159.0

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green & processed coffee. 3/ Crop year July-June for flue-cured, Oct.-Sept. for burley. 4/ Taxable removals. — = not available.

Information contacts: Sugar, Peter Buzzanell (202) 219-0886. Coffee, Fred Gray (202) 219-0888. Tobacco, Varner Grise (202) 219-0890.

## World Agriculture

Table 23.—World Supply &amp; Utilization of Major Crops, Livestock &amp; Products

	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92 P	1992/93 F
	Million units						
<b>Wheat</b>							
Area (hectares)	228.0	219.7	217.4	225.8	231.5	222.3	222.4
Production (metric tons)	524.1	496.0	495.0	533.0	587.9	542.5	580.0
Exports (metric tons) 1/	90.7	112.1	102.9	102.0	101.6	108.5	109.8
Consumption (metric tons) 2/	515.7	526.0	524.9	532.2	583.5	559.4	553.2
Ending stocks (metric tons) 3/	179.1	150.1	120.2	121.0	145.4	128.4	135.3
<b>Coarse grains</b>							
Area (hectares)	335.2	323.0	323.1	320.7	313.6	317.4	317.9
Production (metric tons)	822.1	783.8	720.8	790.3	820.1	800.7	858.0
Exports (metric tons) 1/	82.9	88.3	95.2	103.8	88.1	93.4	87.4
Consumption (metric tons) 2/	796.2	808.8	784.8	813.4	807.9	807.5	832.0
Ending stocks (metric tons) 3/	235.2	215.0	151.0	127.9	140.3	133.4	159.4
<b>Rice, milled</b>							
Area (hectares)	145.1	141.7	145.4	148.8	147.1	145.7	144.9
Production (metric tons)	318.7	314.5	330.0	342.6	350.7	348.4	350.8
Exports (metric tons) 4/	12.9	11.2	13.9	11.7	12.0	14.0	13.7
Consumption (metric tons) 2/	320.8	319.9	327.7	335.9	345.7	352.9	353.4
Ending stocks (metric tons) 3/	50.9	45.5	47.8	54.5	59.5	54.9	52.3
<b>Total grains</b>							
Area (hectares)	708.3	684.4	685.9	693.3	692.2	685.4	686.2
Production (metric tons)	1,662.9	1,594.1	1,545.9	1,685.9	1,758.7	1,691.5	1,788.8
Exports (metric tons) 1/	196.5	211.8	212.0	217.5	201.7	215.9	210.9
Consumption (metric tons) 2/	1,632.7	1,651.5	1,637.4	1,681.5	1,717.1	1,719.8	1,738.8
Ending stocks (metric tons) 3/	465.2	410.6	319.0	303.4	345.2	318.7	347.0
<b>Oilseeds</b>							
Crush (metric tons)	181.8	188.4	184.5	171.8	177.2	185.0	185.1
Production (metric tons)	194.9	210.5	201.8	212.5	215.9	223.5	227.2
Exports (metric tons)	37.7	39.5	31.5	35.8	33.0	37.5	38.5
Ending stocks (metric tons)	23.3	24.0	22.1	23.3	23.4	21.7	22.7
<b>Meats</b>							
Production (metric tons)	110.7	115.4	111.1	117.0	119.8	125.0	125.8
Exports (metric tons)	36.7	35.8	37.4	39.9	40.7	43.2	41.8
<b>Oils</b>							
Production (metric tons)	50.4	53.3	53.3	57.1	58.2	60.5	61.0
Exports (metric tons)	16.9	17.5	18.1	20.4	20.8	20.8	20.4
<b>Cotton</b>							
Area (hectares)	29.2	30.8	33.7	31.5	33.1	34.7	32.7
Production (bales)	70.8	81.1	84.4	79.9	87.0	96.0	82.8
Exports (bales)	33.4	29.9	33.1	31.3	29.8	28.3	25.2
Consumption (bales)	82.8	84.1	85.3	86.7	85.5	84.5	88.9
Ending stocks (bales)	35.7	32.8	31.9	28.3	28.6	40.8	37.5
	1987	1988	1989	1990	1991	1992	1993 F
<b>Red meat</b>							
Production (metric tons)	112.9	116.6	118.1	120.3	121.3	121.3	123.1
Consumption (metric tons)	111.0	114.8	116.7	118.1	119.3	119.8	121.5
Exports (metric tons) 1/	8.7	7.4	7.6	7.6	8.0	7.8	8.0
<b>Poultry 5/</b>							
Production (metric tons)	31.3	32.7	34.0	35.8	37.8	39.2	41.0
Consumption (metric tons)	30.8	32.0	33.2	34.9	37.1	38.8	40.6
Exports (metric tons) 1/	1.5	1.8	1.8	2.1	2.1	2.4	2.8
<b>Dairy</b>							
Milk production (metric tons)	425.7	428.9	434.7	442.0	429.4	415.0	408.1

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years & do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1987 data correspond with 1986/87, etc. 5/ Poultry excludes the Peoples Republic of China before 1986. P = preliminary, F = forecast.

Information contacts: Crops, Carol Whitton (202) 219-0824; red meat & poultry, Linda Bailey (202) 219-1285; dairy, Sara Short (202) 219-0770.



## U.S. Agricultural Trade

**Table 24.—Prices of Principal U.S. Agricultural Trade Products**

	Annual			1992		1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July	
<b>Export commodities</b>											
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	3.72	3.52	4.13	3.72	4.06	4.05	3.87	3.70	3.31	3.50	
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	2.79	2.75	2.66	2.61	2.42	4.49	2.57	2.51	2.37	2.64	
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	2.65	2.69	2.63	2.42	2.42	2.46	2.44	2.42	2.30	2.60	
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	6.24	6.05	6.01	6.01	6.03	6.09	6.18	6.26	6.27	7.32	
Soybean oil, Decatur (cts./lb.)	22.75	20.14	19.16	18.73	20.61	21.01	21.29	21.28	21.21	23.96	
Soybean meal, Decatur (\$/ton)	169.37	172.90	177.79	174.34	179.87	183.37	187.42	193.74	193.41	229.44	
Cotton, 7-market avg. spot (cts./lb.)	71.25	69.69	53.90	60.93	55.38	56.45	56.18	56.36	54.38	54.35	
Tobacco, avg. price at auction (cts./lb.)	169.61	179.23	172.58	156.52	186.53	186.53	157.44	157.44	157.44	158.01	
Rice, f.o.b. mill, Houston (\$/cwt)	15.52	16.46	16.80	16.50	15.00	15.00	15.00	14.18	13.35	13.50	
Inedible tallow, Chicago (cts./lb.)	13.54	13.26	14.37	14.76	14.69	15.24	15.94	15.00	15.11	14.95	
<b>Import commodities</b>											
Coffee, N.Y. spot (\$/lb.)	0.81	0.71	0.50	0.44	0.54	0.56	0.51	0.53	0.52	0.61	
Rubber, N.Y. spot (cts./lb.)	46.28	45.73	46.25	46.78	48.30	48.41	44.17	43.78	43.78	43.30	
Cocoa beans, N.Y. (\$/lb.)	0.55	0.52	0.47	0.47	0.42	0.41	0.43	0.42	0.41	0.45	

Information contact: Mary Teymourian (202) 219-0824

**Table 25.—Indexes of Real Trade-Weighted Dollar Exchange Rates**<sup>1/</sup>

	1992				1993						
	Sept	Oct	Nov	Dec	Jan	Feb P	Mar P	Apr P	May P	June P	July P
	1985 = 100										
<b>Total U.S. trade 2/</b>	59.5	61.9	65.6	65.8	67.3	68.4	68.3	66.1	66.9	66.8	68.7
<b>Agricultural trade</b>											
U.S. markets	74.2	75.2	77.6	77.3	76.2	78.4	78.3	77.0	77.3	76.5	77.3
U.S. competitors	77.2	75.7	77.7	77.4	78.3	78.6	79.1	78.4	76.9	76.7	79.6
<b>Wheat</b>											
U.S. markets	94.1	94.1	96.5	95.9	97.3	98.1	99.8	98.8	99.7	95.2	95.7
U.S. competitors	74.4	71.2	73.3	73.3	74.1	73.7	73.0	72.6	72.9	74.9	75.7
<b>Soybeans</b>											
U.S. markets	60.4	61.9	64.6	64.2	65.6	65.9	65.5	63.9	64.3	64.4	65.7
U.S. competitors	53.6	53.3	53.6	53.0	53.3	53.7	53.9	53.8	54.0	51.6	51.8
<b>Corn</b>											
U.S. markets	66.4	67.3	69.2	68.9	69.6	69.3	68.6	67.1	67.1	66.5	67.1
U.S. competitors	55.5	55.9	57.5	57.2	57.5	57.7	67.6	56.3	56.4	57.9	59.0
<b>Cotton</b>											
U.S. markets	70.7	71.6	73.3	73.4	74.1	74.1	73.6	72.4	72.6	71.3	72.1
U.S. competitors	112.1	109.7	110.7	108.4	110.5	110.2	110.4	110.0	110.3	106.8	106.4

1/ Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of Agricultural Outlook for a discussion of the calculations and the weights used. 2/ Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets. P = preliminary.

Information contact: Tim Baxter (202) 219-0718.

**Table 26.—Trade Balance**

	Fiscal year 1/								June
	1986	1987	1988	1989	1990	1991	1992	1993 F	1993
	\$ million								
<b>Exports</b>									
Agricultural	26,312	27,876	35,316	39,590	40,220	37,609	42,417	42,500	3,147
Nonagricultural	179,291	202,911	258,656	301,269	326,059	356,682	377,278	—	33,322
Total 2/	205,603	230,787	293,972	340,859	366,279	394,291	419,695	—	36,469
<b>Imports</b>									
Agricultural	20,884	20,650	21,014	21,476	22,560	22,588	24,323	25,000	2,050
Nonagricultural	342,846	367,374	409,138	441,075	458,101	463,720	487,554	—	47,790
Total 3/	363,730	388,024	430,152	462,551	480,661	486,308	511,877	—	49,840
<b>Trade balance</b>									
Agricultural	5,428	7,226	14,302	18,114	17,660	15,021	18,094	17,500	1,097
Nonagricultural	-163,555	-164,463	-150,482	-139,806	-132,042	-107,038	-110,276	—	-14,468
Total	-158,127	-157,237	-136,180	-121,692	-114,382	-92,017	-92,182	—	-13,371

1/ Fiscal years begin October 1 & end September 30. Fiscal year 1992 began Oct. 1, 1991 & ended Sept. 30, 1992. 2/ Domestic exports including Department of Defense shipments (F.A.S. value). 3/ Imports for consumption (customs value). F = forecast. — = not available.

Information contact: Joel Greene (202) 219-0822.

Table 27.—U.S. Agricultural Exports &amp; Imports

	Fiscal year *			June	Fiscal year *			June
	1991	1992	1993 F	1993	1991	1992	1993 F	1993
	1,000 units				\$ million			
EXPORTS								
Animals, live (no.) 1/	1,235	1,477	—	90	546	567	—	23
Meats & preps., excl. poultry (mt)	936	1,108	2/ 900	117	2,773	3,236	—	331
Dairy products (mt) 1/	44	172	—	11	293	638	900	47
Poultry meats (mt)	628	795	900	72	737	915	—	79
Fats, oils, & greases (mt)	1,169	1,392	1,400	106	419	498	—	40
Hides & skins incl. furskins	—	—	—	—	1,451	1,337	—	106
Cattle hides, whole (no.) 1/	21,548	20,822	—	1,744	1,191	1,107	—	90
Mink pelts (no.) 1/	3,941	3,160	—	210	74	52	—	4
Grains & feeds (mt)	94,583	100,744	—	6,779	12,175	13,858	3/ 14,300	969
Wheat (mt)	26,792	34,287	35,500	2,337	2,867	4,318	4/ 4,800	310
Wheat flour (mt)	987	816	1,100	87	191	165	—	18
Rice (mt)	2,395	2,279	2,500	274	747	757	800	69
Feed grains, incl. products (mt)	52,353	50,846	50,800	3,114	5,790	5,793	5,200	329
Feeds & fodders (mt)	10,943	11,267	5/ 11,800	864	1,882	2,019	—	170
Other grain products (mt)	1,113	1,449	—	103	697	807	—	74
Fruits, nuts, & preps. (mt)	2,849	3,505	—	286	3,038	3,514	3,600	287
Fruit juices incl. froz. (1,000 hectoliters) 1/	6,311	7,767	—	716	338	427	—	40
Vegetables & preps. (mt)	2,590	2,704	—	303	2,597	2,790	—	282
Tobacco, unmanufactured (mt)	239	246	—	19	1,533	1,568	1,500	137
Cotton, excl. linters (mt)	1,565	1,494	1,200	82	2,605	2,183	1,400	111
Seeds (mt)	514	701	—	22	617	659	700	21
Sugar, cane or beet (mt)	589	492	—	28	219	154	—	9
Oilseeds & products (mt)	22,295	28,842	—	1,613	5,643	7,156	7,500	416
Oilseeds (mt)	15,615	19,970	—	1,123	3,807	4,743	—	278
Soybeans (mt)	15,139	19,247	20,500	1,072	3,485	4,311	4,600	249
Protein meal (mt)	5,628	7,022	—	385	1,113	1,431	—	72
Vegetable oils (mt)	1,051	1,650	—	104	723	982	—	66
Essential oils (mt)	13	13	—	1	183	184	—	16
Other	499	490	—	9	2,441	2,733	—	233
Total	128,513	142,498	147,000	9,448	37,609	42,417	42,500	3,147
IMPORTS								
Animals, live (no.) 1/	3,188	2,830	—	282	1,131	1,275	1,700	138
Meats & preps., excl. poultry (mt)	1,191	1,134	—	93	3,016	2,684	—	230
Beef & veal (mt)	811	813	800	66	2,025	1,933	1,900	166
Pork (mt)	322	263	270	21	865	625	700	50
Dairy products (mt) 1/	231	232	—	21	767	816	900	81
Poultry & products 1/	—	—	—	—	119	132	—	12
Fats, oils, & greases (mt)	33	46	—	5	19	26	—	3
Hides & skins, incl. furskins 1/	—	—	—	—	153	185	—	17
Wool, unmanufactured (mt)	50	54	—	8	175	167	—	14
Grains & feeds (mt)	4,189	5,446	4,700	423	1,282	1,548	1,600	136
Fruits, nuts, & preps., excl. juices (mt)	5,650	5,883	5,990	478	2,741	2,919	—	244
Bananas & plantains (mt)	3,399	3,626	3,700	307	993	1,083	1,100	93
Fruit juices (1,000 hectoliters) 1/	27,948	26,049	24,000	2,220	737	871	—	46
Vegetables & preps. (mt)	2,416	2,171	—	151	2,183	2,125	2,500	176
Tobacco, unmanufactured (mt)	215	364	400	44	698	1,299	1,200	144
Cotton, unmanufactured (mt)	18	11	—	1	16	10	—	1
Seeds (mt)	169	174	200	5	173	214	200	15
Nursery stock & cut flowers 1/	—	—	—	—	538	578	—	34
Sugar, cane or beet (mt)	1,785	1,623	—	177	717	633	—	61
Oilseeds & products (mt)	2,077	2,330	—	181	959	1,124	1,200	87
Oilseeds (mt)	445	429	—	33	151	135	—	10
Protein meal (mt)	412	629	—	52	57	84	—	7
Vegetable oils (mt)	1,220	1,273	—	97	750	904	—	70
Beverages excl. fruit juices (1,000 hectoliters) 1/	12,987	13,739	—	1,428	1,858	2,044	—	189
Coffee, tea, cocoa, spices	2,045	2,391	2,210	158	3,294	3,415	—	220
Coffee, incl. products (mt)	1,116	1,330	1,200	76	1,831	1,798	1,500	101
Cocoa beans & products (mt)	700	773	740	61	1,019	1,122	1,000	77
Rubber & allied gums (mt)	792	920	1,000	63	664	756	900	72
Other	—	—	—	—	1,348	1,503	—	130
Total	—	—	—	—	22,588	24,323	25,000	2,050

\* Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1992 began Oct. 1, 1991 & ended Sept. 30, 1992. 1/ Not included in total volume and also other dairy products for 1991 & 1992. 2/ Forecasts for footnoted items 2/-6/ are based on slightly different groups of commodities. Fiscal 1991 exports of categories used in the 1991 forecasts were 2/ 676,000 m. tons. 3/ 16,014 million. 4/ 4,426 million i.e. includes flour. 5/ 11,065 million m. tons. 6/ Less than \$500. F = forecast. — = not available.

Information contact: Joel Greene (202) 219-0822.



Table 28.—U.S. Agricultural Exports by Region

Region & country	Fiscal year*			June	Change from year* earlier			June
	1991	1992	1993 F	1993	1991	1992	1993 F	1993
	\$ million				Percent			
<b>WESTERN EUROPE</b>	7,312	7,740	7,900	381	-1	6	3	-10
European Community (EC-12)	6,776	7,194	7,300	351	-1	6	1	-11
Belgium-Luxembourg	464	481	—	25	9	-1	—	52
France	571	618	—	34	22	-8	—	-20
Germany	1,135	1,091	—	57	2	-4	—	-6
Italy	675	684	—	25	-4	-1	—	-29
Netherlands	1,561	1,813	—	92	-5	10	—	-10
United Kingdom	883	882	—	62	16	0	—	-13
Portugal	251	240	—	14	-26	-4	—	-17
Spain, incl. Canary Islands	855	951	—	27	-12	11	—	-7
Other Western Europe	536	546	500	31	9	2	0	-1
Switzerland	194	187	—	10	13	-4	—	11
<b>EASTERN EUROPE</b>	306	222	500	25	-36	-28	150	47
Poland	46	49	—	3	-54	6	—	-33
Yugoslavia	74	50	—	5	-43	-32	—	-7
Romania	82	78	—	13	-61	-8	—	734
Former USSR	1,758	2,691	1,800	91	-42	53	-41	-51
<b>ASIA</b>	18,094	17,782	15,700	1,371	-11	10	-12	-1
West Asia (Mideast)	1,430	1,770	1,900	131	-28	24	6	-4
Turkey	224	344	—	26	-14	54	—	-32
Iraq	0	0	0	0	-100	0	0	0
Israel, incl. Gaza & W. Bank	287	346	300	15	1	20	—	-42
Saudi Arabia	538	549	400	31	7	2	-20	-13
South Asia	375	536	—	8	-48	43	—	-54
Bangladesh	67	123	—	1	-44	83	—	-8
India	94	117	—	7	-19	24	—	-12
Pakistan	144	228	200	0	-63	57	0	-64
China	668	691	400	34	-27	3	-43	-40
Japan	7,736	8,383	8,200	729	-5	8	-2	1
Southeast Asia	1,239	1,470	—	102	5	19	—	5
Indonesia	279	353	—	22	1	27	—	-5
Philippines	373	443	500	28	6	19	25	-11
Other East Asia	4,646	4,934	4,900	367	-11	3	0	2
Taiwan	1,739	1,916	2,000	134	-4	10	5	9
Korea, Rep.	2,159	2,200	2,000	160	-20	2	-9	-6
Hong Kong	745	817	900	72	9	10	13	11
<b>AFRICA</b>	1,882	2,304	2,800	183	-6	22	22	-12
North Africa	1,386	1,412	1,800	137	-9	2	29	11
Morocco	129	156	—	24	-21	21	—	83
Algeria	477	478	500	44	-3	0	0	-36
Egypt	692	709	900	58	-9	2	14	56
Sub-Saharan	496	892	1,000	46	2	80	11	-45
Nigeria	44	31	—	10	38	-30	—	244
Rep. S. Africa	74	328	—	14	-9	345	—	-66
<b>LATIN AMERICA &amp; CARIBBEAN</b>	5,499	6,438	6,700	572	7	17	5	8
Brazil	271	143	300	11	158	-47	200	77
Caribbean Islands	1,010	970	—	78	0	-4	—	-6
Central America	498	587	—	73	8	18	—	31
Colombia	124	142	—	18	-16	14	—	13
Mexico	2,885	3,678	3,800	329	8	27	3	14
Peru	150	179	—	12	-20	19	—	-1
Venezuela	307	394	400	27	-11	28	0	-43
<b>CANADA</b>	4,409	4,812	5,100	489	19	9	6	9
<b>OCEANIA</b>	349	428	400	35	10	23	0	20
<b>TOTAL</b>	37,609	42,417	42,500	3,147	-6	13	0	-3
Developed countries	20,108	21,969	22,100	1,659	2	9	0	-2
Developing countries	18,831	19,758	—	1,454	-14	17	—	-2
Other countries	672	691	—	34	-26	3	—	-40

\* Fiscal years begin Oct. 1 & end Sept. 30. Fiscal year 1992 began Oct. 1, 1991 & ended Sept. 30, 1992. F = forecast. — = not available.  
 Note: Adjusted for transshipments through Canada.

Information contact: Joel Greene (202) 219-0822.

## Farm Income

Table 29.—Farm Income Statistics

	Calendar year										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992 P	1993 F
	\$ billion										
1. Farm receipts	141.9	147.7	150.1	140.0	148.5	158.4	168.9	177.5	176.5	178	178 to 185
Crops (incl. net CCC loans)	67.2	69.9	74.3	63.7	65.9	71.7	77.0	80.1	81.9	85	83 to 88
Livestock	69.6	72.9	69.8	71.8	76.0	79.4	84.1	89.8	86.8	86	86 to 90
Farm related 1/	5.1	4.9	6.0	5.7	6.6	7.3	7.8	7.6	7.8	7	6 to 6
2. Direct Government payments	9.3	8.4	7.7	11.8	16.7	14.5	10.9	9.3	8.2	9	11 to 16
Cash payments	4.1	4.0	7.6	8.1	6.6	7.1	9.1	8.4	8.2	9	11 to 15
Value of PIK commodities	5.2	4.5	0.1	3.7	10.1	7.4	1.7	0.9	0.0	0	0 to 1
3. Gross cash income (1+2) 2/	151.1	156.1	157.9	152.8	165.1	172.9	179.8	186.8	184.7	188	190 to 198
4. Nonmoney income 3/	13.6	5.9	5.6	5.5	5.8	6.3	6.3	6.2	5.9	6	6 to 7
5. Value of inventory change	-10.9	6.0	-2.3	-2.2	-2.3	-3.4	4.8	3.4	-0.3	4	-5 to -1
6. Total gross farm income (3+4+5)	153.9	168.0	161.2	156.1	168.5	175.8	190.9	196.4	190.3	197	193 to 202
7. Cash expenses 4/	112.8	118.7	110.7	105.0	109.4	118.4	125.1	130.9	131.4	130	126 to 134
8. Total expenses	139.6	141.9	132.4	125.1	128.8	137.0	144.0	149.9	150.3	149	146 to 155
9. Net cash income (3-7)	38.4	37.4	47.1	47.8	55.8	54.5	54.7	65.9	53.3	57	58 to 67
10. Net farm income (6-8)	14.2	26.1	28.8	31.0	39.7	38.8	46.9	46.5	40.0	48	43 to 50
Deflated (1987\$)	16.3	28.7	30.5	32.0	39.7	37.3	43.3	41.1	34.0	39	34 to 41

1/ Income from machine hire, custom work, sales of forest products, & other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food & imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, & farm household expenses. Total may not add because of rounding. F = forecast.

Note: 1988-92 accounts (primarily expenses) have been revised to reflect improved methods for estimating farm income. Call contact for information.

Information contact: Robert McElroy (202) 219-0800.

Table 30.—Average Income to Farm Operator Households

	Calendar year					
	1988	1989	1990	1991	1992 P	1993 F
	\$ per operator household					
Farm income to household 1/	4,201	5,796	5,742	4,397	4,337	—
Self-employment farm income	3,836	4,723	4,973	2,283	2,829	—
Other farm income to household	364	1,073	768	2,114	2,010	—
Plus: Total off-farm income	28,829	26,223	33,265	31,638	35,731	—
Income from wages, salaries, and non-farm businesses	22,220	19,467	24,778	23,551	27,022	—
Income from interest, dividends, transfer payments, etc.	6,610	6,756	8,487	8,087	8,709	—
Equals: Farm operator household income	33,030	32,019	39,007	36,025	40,068	—

1/ Farm income to the household equals self-employment income plus amounts that operators pay themselves & family members to work on the farm, income from renting out acreage, & net income from a farm business other than the one being surveyed. Data for 1988-90 are based on surveys that did not fully account for small farms. Data for 1991 include an additional 350,000 farms, many with gross sales under \$10,000 & negative net farm incomes. F = forecasts, not available at this time.

Information contact: Janet Perry (202) 219-0807.



Table 31.—Balance Sheet of the U.S. Farming Sector

	Calendar year 1/										
	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992F	1993 F
	\$ billion										
<b>Assets</b>											
Real estate	753.4	681.8	588.2	542.3	578.9	595.5	615.7	628.2	623.2	633	640 to 650
Non-real estate	189.8	195.2	188.5	182.1	193.7	205.6	214.1	220.2	220.7	228	225 to 235
Livestock & poultry	49.5	49.5	46.3	47.8	58.0	62.2	66.2	70.9	68.1	71	70 to 74
Machinery & motor vehicles	85.8	85.0	82.9	81.5	80.0	81.2	85.1	85.4	85.8	86	83 to 87
Crops stored 2/	23.8	26.1	22.9	18.3	17.5	23.3	23.4	22.8	23.6	24	23 to 27
Purchased inputs	—	2.0	1.2	2.1	3.1	3.5	2.6	2.8	2.6	4	2 to 4
Financial assets	30.9	32.8	33.3	34.5	35.1	35.4	38.8	38.3	40.8	43	43 to 47
Total farm assets	943.2	857.0	772.7	724.4	772.6	801.1	829.8	848.4	843.9	881	870 to 880
<b>Liabilities</b>											
Real estate debt 3/	103.2	106.7	100.1	90.4	82.4	77.6	75.4	73.7	74.4	75	73 to 77
Non-real estate debt 4/	87.9	87.1	77.5	68.6	82.0	61.7	61.8	63.1	64.3	63	63 to 67
Total farm debt	191.1	193.8	177.6	157.0	144.4	139.4	137.2	136.8	138.8	138	137 to 143
Total farm equity	752.2	663.3	595.1	567.5	628.2	661.6	692.6	711.6	705.1	723	730 to 740
	Percent										
<b>Selected ratios</b>											
Debt-to-assets	20.3	22.6	23.0	21.7	18.7	17.4	16.5	16.1	16.4	16	15 to 17
Debt-to-equity	25.5	29.2	29.8	27.7	23.0	21.1	19.8	19.2	19.7	19	18 to 20
Debt-to-net cash income	498	518	377	328	259	258	251	245	260	244	220 to 230

1/ As of Dec. 31. 2/ Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3/ Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4/ Excludes debt for nonfarm purposes. F = forecast.

Information contacts: Ken Erickson or Jim Ryan (202) 219-0798.

Table 32.—Cash Receipts From Farm Marketings, by State

Region/ <sup>a</sup> State	Livestock & products				Crops <sup>1/</sup>				Total <sup>1/</sup>			
	1991	1992	May 1993	June 1993	1991	1992	May 1993	June 1993	1991	1992	May 1993	June 1993
	\$ million <sup>2/</sup>											
<b>NORTH ATLANTIC</b>												
Maine	292	301	19	19	192	213	13	2	484	513	32	20
New Hampshire	53	65	6	5	79	79	6	3	142	144	12	8
Vermont	370	389	33	32	64	63	7	3	434	452	41	34
Massachusetts	129	135	12	11	356	356	19	21	485	491	31	32
Rhode Island	12	13	1	1	57	60	5	3	69	72	6	4
Connecticut	208	240	16	16	264	249	19	13	472	489	36	29
New York	1,793	1,914	161	157	1,081	1,032	70	67	2,874	2,946	230	224
New Jersey	193	192	17	16	465	465	32	47	658	657	48	62
Pennsylvania	2,405	2,554	207	192	997	1,064	80	68	3,402	3,618	286	260
<b>NORTH CENTRAL</b>												
Ohio	1,681	1,580	120	122	2,484	2,587	138	116	4,165	4,167	258	238
Indiana	1,817	1,821	121	143	2,583	2,584	123	163	4,500	4,505	244	306
Illinois	2,353	2,202	196	188	5,181	5,431	340	360	7,534	7,634	537	548
Michigan	1,288	1,325	113	86	1,922	1,962	109	105	3,210	3,286	222	190
Wisconsin	4,191	4,313	401	366	1,225	1,186	61	68	5,417	5,499	461	434
Minnesota	3,593	3,622	323	291	3,788	3,460	113	143	7,378	7,082	436	434
Iowa	6,720	6,614	505	425	4,529	4,716	264	272	10,250	10,330	769	697
Missouri	2,268	2,188	182	183	1,642	1,935	98	199	3,911	4,123	278	352
North Dakota	670	755	41	36	1,877	2,339	87	134	2,547	3,094	128	170
South Dakota	2,125	1,968	152	145	1,188	1,263	40	49	3,314	3,229	192	194
Nebraska	5,933	5,674	588	510	3,111	3,109	134	130	9,044	8,783	722	640
Kansas	4,800	4,558	430	330	2,276	2,442	99	322	7,076	7,000	528	653
<b>SOUTHERN</b>												
Delaware	438	451	54	40	184	184	9	15	622	636	62	54
Maryland	788	804	79	68	564	587	39	38	1,352	1,391	118	106
Virginia	1,363	1,353	103	87	753	781	32	60	2,116	2,134	135	157
West Virginia	253	267	20	20	71	75	3	7	324	343	23	27
North Carolina	2,817	2,795	236	244	2,339	2,386	88	134	4,956	6,181	322	379
South Carolina	549	545	40	36	677	632	25	89	1,228	1,177	66	105
Georgia	2,162	2,309	194	188	1,772	1,764	78	114	3,934	4,073	272	302
Florida	1,172	1,160	85	84	4,953	4,985	795	327	6,125	6,145	880	412
Kentucky	1,705	1,641	103	101	1,491	1,580	32	48	3,196	3,221	135	149
Tennessee	1,044	1,061	83	87	893	1,042	33	44	1,936	2,103	115	131
Alabama	2,237	2,063	175	150	770	768	34	50	3,007	2,830	209	200
Mississippi	1,276	1,355	120	111	1,108	1,247	22	42	2,383	2,602	142	154
Arkansas	2,664	2,702	227	233	1,578	1,901	28	101	4,242	4,602	255	335
Louisiana	836	867	46	55	1,092	1,259	18	21	1,728	1,846	65	76
Oklahoma	2,788	2,498	303	151	1,068	1,137	62	201	3,856	3,635	365	352
Texas	7,881	7,523	795	661	4,336	4,097	266	242	12,217	11,620	1,061	903
<b>WESTERN</b>												
Montana	810	921	64	48	704	821	37	23	1,514	1,742	101	71
Idaho	1,065	1,173	104	91	1,586	1,643	71	71	2,651	2,816	175	162
Wyoming	668	608	41	19	169	167	4	4	837	773	45	23
Colorado	2,663	2,955	254	256	1,099	1,083	52	48	3,762	4,038	306	305
New Mexico	978	1,040	89	87	474	490	35	52	1,452	1,530	124	139
Arizona	786	892	100	74	1,081	943	87	57	1,867	1,835	187	131
Utah	550	556	43	44	171	182	9	10	721	738	62	54
Nevada	209	202	19	16	88	71	4	4	297	273	23	19
Washington	1,299	1,532	115	121	2,844	2,922	125	171	4,143	4,454	239	293
Oregon	828	795	55	55	1,699	1,695	68	102	2,525	2,490	123	167
California	5,254	5,055	456	405	12,523	13,179	807	802	17,777	18,234	1,263	1,207
Alaska	6	6	0	0	20	20	1	1	27	25	2	2
Hawaii	88	88	8	8	474	476	39	40	562	564	47	48
<b>UNITED STATES</b>	<b>86,780</b>	<b>86,358</b>	<b>7,652</b>	<b>6,835</b>	<b>81,942</b>	<b>84,810</b>	<b>4,757</b>	<b>5,159</b>	<b>168,721</b>	<b>171,168</b>	<b>12,409</b>	<b>11,994</b>

<sup>1/</sup> Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. <sup>2/</sup> Estimates as of end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 219-0806. To receive current monthly cash receipts via mail or E-mail contact Linda Farmer at (202) 219-0804.



Table 33.—Cash Receipts From Farming

	Annual						1992	1993				
	1987	1988 R	1989 R	1990 R	1991 R	1992 R	June	Feb	Mar	Apr	May	June
	\$ million											
Farm marketings & CCC loans*	141,844	151,154	161,163	169,973	168,721	171,168	12,224	11,755	12,837	12,088	12,409	11,994
Livestock & products	75,993	79,434	84,122	89,843	86,780	88,358	6,736	6,859	7,333	7,428	7,852	6,835
Meat animals	44,478	46,492	46,857	51,911	51,089	48,427	3,535	4,242	4,341	4,365	4,510	3,763
Dairy products	17,727	17,841	19,398	20,149	18,037	19,848	1,719	1,402	1,618	1,734	1,793	1,675
Poultry & eggs	11,515	12,868	15,372	15,243	15,122	15,441	1,279	1,038	1,181	1,150	1,183	1,197
Other	2,274	2,433	2,498	2,540	2,531	2,642	202	177	193	180	186	200
Crops	65,651	71,720	77,040	80,130	81,942	84,810	5,488	4,896	5,303	4,638	4,757	5,159
Food grains	5,790	7,469	8,247	7,517	7,410	8,890	1,319	409	347	223	258	1,097
Feed crops	14,835	14,283	17,054	18,871	19,491	20,073	1,120	1,480	1,404	842	847	1,101
Cotton (lint & seed)	4,189	4,546	5,033	5,489	5,236	5,207	81	280	179	103	34	50
Tobacco	1,818	2,083	2,415	2,741	2,580	2,961		41	36	6		
Oil-bearing crops	11,263	13,500	11,868	12,258	12,700	12,998	542	650	868	402	778	584
Vegetables & melons	9,898	9,818	11,598	11,449	11,552	11,436	1,040	873	963	1,253	1,398	1,032
Fruits & tree nuts	8,065	9,027	9,173	9,440	9,888	10,183	888	450	376	372	354	586
Other	10,176	10,993	11,657	12,588	12,778	13,065	718	812	1,131	1,437	1,087	710
Government payments	16,747	14,480	10,887	9,298	8,214	9,169	190	1,054	3,936	2,001	945	356
Total	158,591	165,582	171,914	179,218	175,506	179,338	12,414	12,809	16,573	14,087	13,354	12,350

\* Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. R = revised.

Information contact: Roger Strickland (202) 219-0806 To receive current monthly cash receipts via mail or E-Mail contact Linda Farmer at (202) 219-0804.

Table 34.—Farm Production Expenses

	Calendar year									
	1984	1985	1986	1987	1988	1989	1990	1991	1992P	1993F
	\$ million									
Feed purchased	19,383	16,949	17,472	17,463	20,246	20,744	20,387	19,330	19,832	18,000 to 22,000
Livestock & poultry purchased	9,487	9,184	9,758	11,842	12,764	13,138	14,833	14,272	13,780	12,000 to 16,000
Seed purchased	3,386	3,128	3,188	3,259	4,062	4,400	4,521	5,119	4,918	4,000 to 6,000
Farm-origin inputs	32,256	29,281	30,418	32,564	37,071	38,281	39,742	38,722	39,531	37,000 to 41,000
Fertilizer & lime	8,360	7,512	6,820	6,453	7,881	8,177	8,210	8,871	8,340	7,000 to 9,000
Fuels & oils	7,296	6,436	5,310	4,957	4,800	4,772	5,790	5,599	5,311	4,000 to 7,000
Electricity	2,080	1,878	1,795	2,156	2,380	2,648	2,607	2,634	2,611	2,000 to 4,000
Pesticides	4,688	4,334	4,324	4,512	4,148	5,013	5,364	6,324	6,476	5,000 to 8,000
Manufactured inputs	22,404	20,159	18,249	18,078	18,987	20,610	21,971	23,229	22,736	21,000 to 25,000
Short-term interest	10,398	8,735	7,367	6,767	6,674	8,660	6,528	6,124	5,793	4,000 to 7,000
Real estate interest 1/	10,733	9,878	9,131	8,205	7,581	7,190	8,740	5,963	5,592	5,000 to 7,000
Total interest charges	21,129	18,613	16,498	14,972	14,255	13,850	13,268	12,088	11,385	10,000 to 14,000
Repair & maintenance 1/	6,418	6,370	5,426	6,759	7,717	8,407	8,553	8,630	8,469	8,000 to 10,000
Contract & hired labor	9,427	10,008	9,484	9,975	10,954	11,928	13,950	13,926	14,060	12,000 to 16,000
Machine hire & custom work	2,566	2,354	2,099	2,105	2,510	2,937	2,959	3,085	3,317	2,000 to 4,000
Marketing, storage, & transportation	4,012	4,127	3,652	4,078	3,516	4,206	4,211	4,719	4,542	3,000 to 5,000
Misc. operating expenses 1/ 2/	10,331	10,010	9,759	11,171	12,001	12,003	12,727	13,539	12,844	10,000 to 14,000
Other operating expenses	32,751	32,868	31,420	34,088	38,897	39,481	42,400	43,899	43,232	41,000 to 46,000
Capital consumption 1/	20,847	19,299	17,788	17,091	17,378	17,863	17,682	17,645	17,769	16,000 to 20,000
Taxes 1/	4,337	4,542	4,612	4,853	4,955	5,214	5,680	5,613	5,838	5,000 to 7,000
Net rent to nonoperator landlords	8,150	7,890	6,099	7,124	7,684	8,731	9,184	9,112	9,603	9,000 to 11,000
Other overhead expenses	33,334	31,531	28,499	29,069	30,016	31,807	32,517	32,370	33,210	32,000 to 35,000
Total production expenses	141,876	132,433	125,084	128,772	137,028	144,029	149,897	150,307	149,094	150,000 to 152,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses include other livestock purchases, dairy assessments & feeding fees paid by nonoperators. Totals may not add because of rounding. P = preliminary. F = forecast

Information contacts: Chris McGath (202) 219-0804, Robert McElroy (202) 219-0800.

Table 35.—CCC Net Outlays by Commodity &amp; Function

COMMODITY/PROGRAM	Fiscal year									
	1985	1986	1987	1988	1989	1990	1991	1992	1993 E	1994 E
	\$ million									
<b>COMMODITY/PROGRAM</b>										
Feed grains										
Corn	4,403	10,524	12,346	8,227	2,863	2,450	2,387	2,105	4,882	3,421
Grain sorghum	463	1,185	1,203	764	467	361	243	190	400	310
Barley	336	471	394	57	45	-93	71	174	203	133
Oats	2	28	17	-2	1	-5	12	32	15	12
Corn & oat products	7	5	7	7	8	8	9	9	9	7
Total feed grains	5,211	12,211	13,967	9,053	3,384	2,721	2,722	2,510	5,509	3,883
Wheat	4,691	3,440	2,836	678	53	806	2,958	1,719	2,424	2,304
Rice	990	947	906	128	631	667	867	715	1,035	955
Upland cotton	1,553	2,142	1,788	866	1,451	-79	382	1,443	2,304	2,329
Tobacco	455	253	-346	-453	-367	-307	-143	29	130	25
Dairy	2,085	2,337	1,166	1,295	679	505	839	232	315	249
Soybeans	711	1,597	-478	-1,676	-86	5	40	-29	9	-37
Peanuts	12	32	8	7	13	1	48	41	-11	4
Sugar	164	214	-85	-246	-25	15	-20	-19	-27	-24
Honey	81	69	73	100	42	47	19	17	15	15
Wool	109	123	152	1/ 5	93	104	172	181	178	196
Operating expense 3/	346	457	535	614	620	618	625	6	6	6
Interest expenditure	1,435	1,411	1,219	425	98	632	745	532	98	39
Export programs 4/	134	102	276	200	-102	-34	733	1,455	3,142	1,833
1989/93 Disaster/Treat/	0	0	0	0	3,919	2/ 161	121	1,054	1,389	2,346
livestock assistance										
Other	-314	486	371	1,665	110	609	2	-158	638	1,267
<b>Total</b>	<b>17,683</b>	<b>25,841</b>	<b>22,408</b>	<b>12,461</b>	<b>10,523</b>	<b>6,471</b>	<b>10,110</b>	<b>9,738</b>	<b>17,150</b>	<b>15,420</b>
<b>FUNCTION</b>										
Price-support loans (net)	6,272	13,628	12,199	4,579	-928	-399	418	584	2,152	1,366
Direct payments 5/										
Deficiency	6,302	6,168	4,833	3,971	5,798	4,178	6,224	5,491	8,573	7,307
Diversion	1,525	64	382	8	-1	0	0	0	0	0
Dairy termination	0	489	587	280	166	189	96	2	0	0
Loan Deficiency	0	27	60	0	42	3	21	214	385	425
Other	0	0	0	0	0	0	0	140	203	249
Disaster	0	0	0	6	4	0	0	0	0	0
Total direct payments	7,827	6,746	5,862	4,245	6,011	4,370	6,341	5,847	9,161	7,981
1988-93 crop disaster	0	0	0	0	3,386	2/ 5	6	960	1,328	2,342
Emergency livestock/treat/										
forage assistance	0	0	0	31	533	156	115	94	61	4
Purchases (net)	1,331	1,670	-479	-1,131	116	-48	646	321	453	376
Producer storage										
payments	329	485	832	658	174	185	1	14	12	69
Processing, storage,										
& transportation	657	1,013	1,659	1,113	659	317	394	185	121	135
Operating expense 3/	346	457	535	614	620	618	625	6	6	6
Interest expenditure	1,435	1,411	1,219	425	98	632	745	532	98	39
Export programs 4/	134	102	276	200	-102	-34	733	1,455	3,142	1,833
Other	-648	328	305	1,727	-46	669	86	-260	618	1,269
<b>Total</b>	<b>17,683</b>	<b>25,841</b>	<b>22,408</b>	<b>12,461</b>	<b>10,523</b>	<b>6,471</b>	<b>10,110</b>	<b>9,738</b>	<b>17,150</b>	<b>15,420</b>

1/ Fiscal 1988 wool & mohair program outlays were \$130,635,000 but include a one-time advance appropriation of \$126,108,000, which was recorded as a wool program receipt by Treasury. 2/ Approximately \$1.5 billion in benefits to farmers under the Disaster Assistance Act of 1989 were paid in generic certificates & were not recorded directly as disaster assistance outlays. 3/ Does not include CCC Transfers to General Sales Manager. 4/ Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Promotion Program, starting in fiscal 1991 & starting in fiscal 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, & Dairy Export Incentive Program. 5/ Includes cash payments only. Excludes payment-in-kind in fiscal 83-85 & generic certificates in fiscal 86-93. E = Estimated in the fiscal 1994 Mid-Session Review Budget which was released September 1, 1993 based on June, 1993 supply & demand estimates. These estimates incorporate the aggregate outlay impact of the FY 1993 Disaster Supplemental for the Midwest floods and the Omnibus Budget Reconciliation Act of 1993. The impact of the Disaster Act and the Reconciliation Act on outlay estimates for individual CCC commodities is not reflected in this table. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski (202) 720-5148.



## Food Expenditures

Table 36.—Food Expenditures

	Annual			1993			1993 year-to-date		
	1990	1991	1992	June	July	Aug P	June	July	Aug P
\$ billion									
Sales 1/									
Off-premise use 2/	302.8	315.5	323.0	27.7	28.7	27.5	160.3	189.0	216.5
Meals & snacks 3/	225.2	232.3	241.3	21.9	22.3	21.8	123.8	146.1	167.9
1992 \$ billion									
Sales 1/									
Off-premise use 2/	313.1	317.8	323.0	27.2	28.2	27.0	157.1	185.3	212.2
Meals & snacks 3/	237.6	237.0	241.3	21.5	21.9	21.4	122.1	144.0	165.4
Percent change from year earlier (\$ bil.)									
Sales 1/									
Off-premise use 2/	8.9	4.2	2.4	4.0	2.6	1.5	2.9	2.9	2.7
Meals & snacks 3/	7.2	3.1	3.9	9.1	8.3	2.5	4.9	5.4	5.0
Percent change from year earlier (1992 \$ bil.)									
Sales 1/									
Off-premise use 2/	2.2	1.5	0.4	1.6	0.1	-0.8	0.8	0.7	0.5
Meals & snacks 3/	2.4	-0.2	1.8	7.2	6.3	0.6	3.2	3.7	3.3

1/ Food only (excludes alcoholic beverages). Not seasonally adjusted. 2/ Excludes donations & home production. 3/ Excludes donations, child nutrition subsidies, & meals furnished to employees, patients, & inmates. P = preliminary.

NOTE: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food nonalcoholic beverages & pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced & consumed on farms & food furnished to employees; (4) this series includes all sales of meals & snacks. PCE includes only purchases using personal funds, excluding business travel & entertainment. For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," Agr. Econ. Rpt. No. 575, Aug 1987.

Information contact: Alden Manchester (202) 219-0880.

## Transportation

**Table 37.—Rail Rates; Grain & Fruit-Vegetable Shipments**

	Annual			1992	1993					
	1990	1991	1992	July	Feb	Mar	Apr	May	June	July
Rail freight rate index 1/ (Dec. 1984=100)										
All products	107.5	109.3	109.9	109.8	110.5	110.6	110.6 P	110.6 P	110.7 P	110.7 P
Farm products	110.4	111.4	111.1	110.2	113.4	113.5	113.5 P	113.3 P	113.2 P	113.2 P
Grain	110.1	111.2	111.4	110.3	114.4	114.5	114.5 P	114.2 P	114.1 P	114.1 P
Food products	105.4	108.1	108.7	108.1	108.7	108.9	108.8 P	108.7 P	108.8 P	108.9 P
Grain shipments										
Rail carloadings (1,000 cars) 2/	27.6	28.6	27.4	25.7	30.7 P	30.1 P	28.0 P	24.7 P	24.7 P	25.9 P
Barge shipments (mil. ton) 3/	3.8	3.3	3.4	4.8	1.7	3.0	2.5	3.7	3.7	0.4
Fresh fruit & vegetable shipments 4/ 5/										
Piggy back (mil. cwt)	1.8	1.5	1.6	1.8	1.4	1.6	1.4	2.0	1.8	1.1
Rail (mil. cwt)	2.3	2.1	2.6	2.1	2.2	2.8	2.0	3.0	3.2	1.8
Truck (mil. cwt)	41.5	41.9	44.0	43.2	39.1	44.0	48.2	57.2	54.8	46.5
Cost of operating trucks hauling produce 4/										
Fleet operation (cts./mile)	130.5	126.6	124.1	124.8	127.0	127.0	127.0	127.3	127.2	127.0

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. 3/ Shipments on Illinois & Mississippi waterways, U.S. Corps of Engineers. 4/ Agricultural Marketing Service, USDA. 5/ Preliminary data for 1993. P = preliminary. — = not available.

Information contact: T.Q. Hutchinson (202) 219-0840.

## Indicators of Farm Productivity

**Table 38.—Indexes of Farm Production, Input Use & Productivity** <sup>1/</sup>

New data are being incorporated. The table will appear in the November issue.

Information contact: Eldon Ball (202) 219-0432.



## Food Supply &amp; Use

Table 39.—Per Capita Consumption of Major Food Commodities <sup>1/</sup>

Commodity	1985	1986	1987	1988	1989	1990	1991	1992 P
Pounds								
Red meats 2/3/4/	124.9	122.2	117.4	119.5	115.9	112.4	111.9	114.1
Beef	74.6	74.4	69.6	68.6	65.4	64.0	63.1	62.8
Veal	1.5	1.8	1.3	1.1	1.0	0.9	0.8	0.8
Lamb & mutton	1.1	1.0	1.0	1.0	1.1	1.1	1.0	1.0
Pork	47.7	45.2	45.6	48.8	48.4	46.4	46.9	49.6
Poultry 2/3/4/	45.2	47.1	50.7	51.7	53.6	55.9	58.0	60.1
Chicken	36.1	37.0	39.1	39.3	40.5	42.1	43.9	45.9
Turkey	9.1	10.2	11.6	12.4	13.1	13.8	14.1	14.2
Fish & shellfish 3/	15.0	15.4	16.1	15.1	15.6	15.0	14.8	14.7
Eggs 4/	32.7	32.5	32.5	31.5	30.2	29.9	29.8	30.0
Dairy products								
Cheese (excluding cottage) 2/5/	22.5	23.1	24.1	23.7	23.8	24.6	25.0	26.0
American	12.2	12.1	12.4	11.5	11.0	11.1	11.1	11.3
Italian	6.5	7.0	7.6	8.1	8.5	9.0	9.4	10.0
Other cheese 6/	3.9	4.0	4.1	4.1	4.3	4.6	4.6	4.7
Cottage cheese	4.1	4.1	3.9	3.9	3.6	3.4	3.3	3.1
Beverage milks 2/	229.7	228.6	226.5	222.4	224.3	221.7	221.2	218.5
Fluid whole milk 7/	123.4	116.5	111.9	105.7	97.6	90.4	87.4	84.1
Fluid lowfat milk 8/	63.7	68.6	100.6	100.5	106.5	108.4	109.9	109.4
Fluid skim milk	12.6	13.5	14.0	16.1	20.2	22.9	23.9	25.0
Fluid cream products 9/	6.7	7.0	7.1	7.1	7.3	7.1	7.3	7.5
Yogurt (excluding frozen)	4.1	4.4	4.4	4.7	4.3	4.1	4.2	4.3
Ice cream	18.1	18.4	18.4	17.3	16.1	15.8	16.3	16.4
Ice milk	6.9	7.2	7.4	8.0	8.4	7.7	7.4	7.1
Frozen yogurt	--	--	--	--	2.0	2.8	3.5	3.1
All dairy products, milk equivalent, milkfat basis 10/	593.8	591.5	601.3	582.9	585.2	569.7	565.2	564.6
Fats & oils -- Total fat content	64.3	64.4	62.9	63.0	60.4	62.2	63.8	65.6
Butter & margarine (product weight)	15.7	16.0	15.2	14.8	14.6	15.3	14.8	15.2
Shortening	22.9	22.1	21.4	21.5	21.5	22.2	22.4	22.4
Lard & edible tallow (direct use)	3.7	3.5	2.7	2.6	2.1	2.5	3.1	4.1
Salad & cooking oils	23.5	24.2	25.4	25.8	24.0	24.2	25.2	25.6
Fresh fruits 11/	110.6	117.4	121.8	120.7	123.1	116.8	113.2	122.7
Canned fruit 12/	12.7	12.9	13.6	13.3	13.3	13.5	12.3	14.4
Dried fruit	2.9	2.7	3.1	3.3	3.2	3.6	3.1	3.2
Frozen fruit	3.3	3.6	3.9	3.8	4.6	4.3	3.9	4.7
Selected fruit juices 13/	66.9	65.0	70.0	64.7	67.0	59.6	63.8	59.6
Vegetables 11/								
Fresh	103	100.5	107	111.5	115.5	113.3	110.4	109.3
Canning	95.1	95.6	95.1	91.2	98.7	101.7	103.4	106.3
Freezing	19.8	18.5	19.3	21.1	20.7	20.5	21.6	20.8
Potatoes, all 11/	122.4	126.0	125.9	122.5	127.1	127.8	130.6	133.5
Sweetpotatoes 11/	5.4	4.4	4.4	4.1	4.1	4.6	4.0	4.3
Peanuts (shelled)	6.3	6.4	6.4	6.9	7.0	6.0	6.5	6.4
Tree nuts (shelled)	2.3	2.2	2.2	2.3	2.4	2.6	2.3	2.4
Flour & cereal products 14/	156.1	162.1	170.8	173.7	175.4	183.5	185.4	187.0
Wheat flour	124.7	125.7	130.0	130.0	129.6	135.8	136.5	138.3
Rice (milled basis)	9.0	11.6	14.0	14.3	15.2	16.2	16.8	16.8
Caloric sweeteners 15/	131.3	129.6	133.7	135.1	137.3	140.7	141.7	143.3
Coffee (green bean equiv.)	10.5	10.5	10.2	9.8	10.1	10.3	10.5	10.6
Cocoa (chocolate liquor equiv.)	3.7	3.8	3.8	3.8	4.0	4.3	4.6	4.6

1/ In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, & ending stocks. Calendar-year data except fresh citrus fruits, peanuts, tree nuts, & rice, which are on crop-year basis. 2/ Total may not add due to rounding. 3/ Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4/ Excludes shipments to the U.S. territories. 5/ Natural equivalent of cheese & cheese & other dairy products. Includes miscellaneous cheese not shown separately. 6/ Includes Swiss, Brick, Munster, cream, Neufchatel, Blue, Gorgonzola, Edam, & Gouda. 7/ Plain & flavored. 8/ Plain & flavored & buttermilk. 9/ Heavy cream, light cream, half & half, & sour cream & dip. 10/ Includes condensed & evaporated milk & dry milk products. 11/ Farm weight. 12/ Excludes pineapples & berries. 13/ Single strength equivalent. 14/ Includes rye, corn, oat, & barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, & fuel. 15/ Dry weight equivalent -- not available. P = Preliminary.

Information contact: Judy Jones Putnam (202) 219-0862.

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